

Mathematics

By a group of supervisors

PARENTS' GUIDE

Interactive E-learning Application

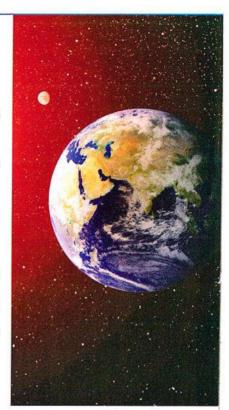




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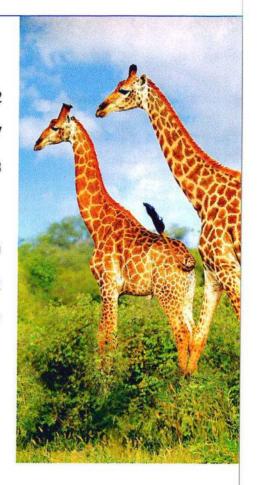
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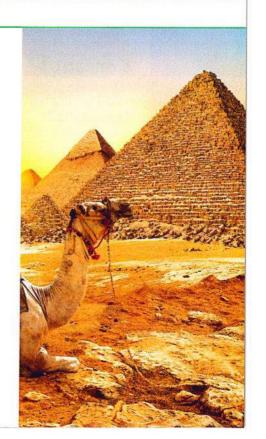
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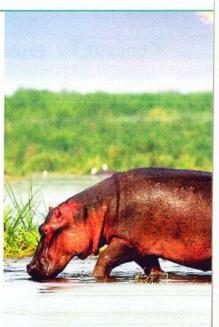
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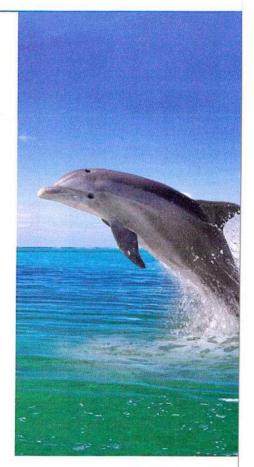
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Concept 1 **Order of Operations**

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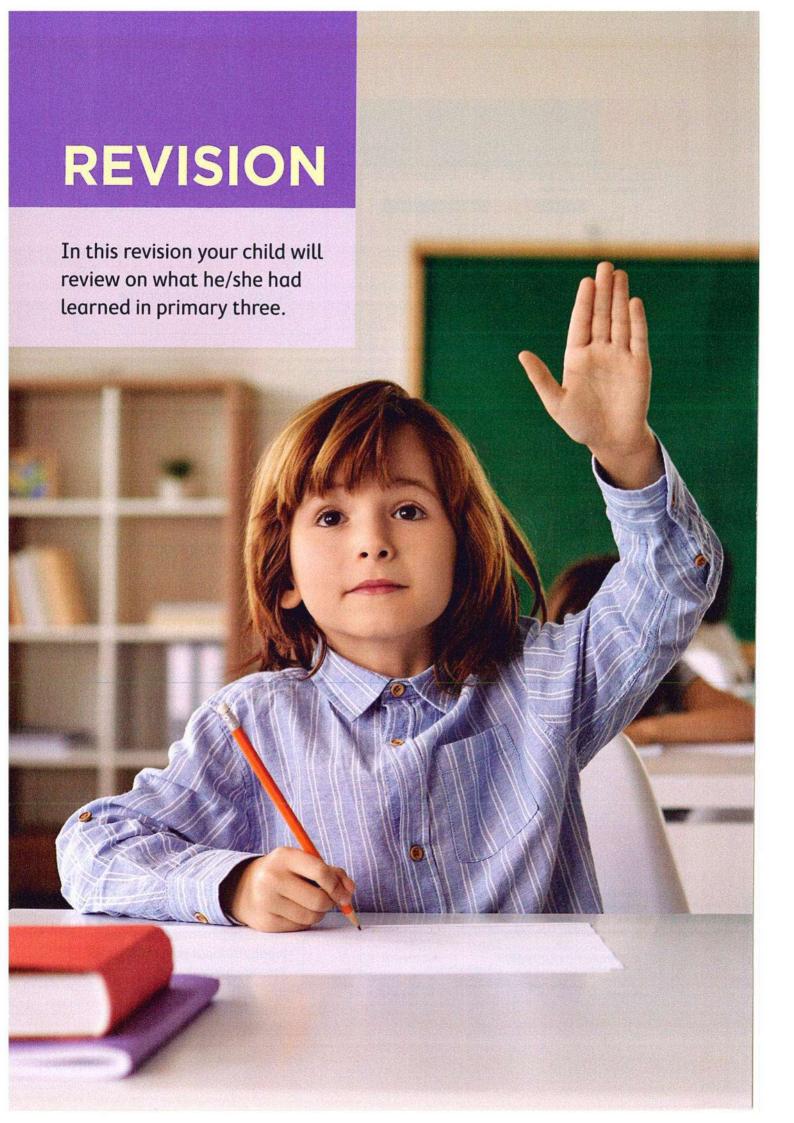
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Revision 1

1. Complete.

a. 32,621 + 18,709 = _____

b. 30 thousands = — hundreds.

c. The perimeter of the rectangle 2cm is — cm

d. The place value of the digit 4 in the number 46,385 is

e. Thirty-eight thousand, five hundred two in standard form is ———

4 cm

6 cm

2. Choose the correct answer.

a. $35 \div 7 = -----$

A. 5

B. 6

C. 7

6 cm

D. 8

A. 3,829

B. 8,293

C. 30,829

D. 3,928

c.
$$8 \times - = [8 \times 5] + [8 \times 2]$$

A. 10

B. 3

C. 8

D. 7

d. The area of the shape

A. 30

B. 28

C. 24

D. 20

e. The greatest number formed from 7, 2, 0, 6, 8, 1 is -

A. 870,621

B. 876,210

C. 102,678

square cm.

D. 780,621

3. Arrange the following numbers from least to greatest.

56,210 , 506,021 , 650,201 , 171,000 , 43,692

4. Find.

a. 7,263 -4,081

Revision 2

1. Choose the correct answer.

A. 12,337

B. 21,373

C. 21,733

D. 21,337

b. 501,326 < _____

A. 510,200

B. 501,236

C. 51,623

D. 56,632

c. 3 × 80 = _____

A. 24

B. 240

C. 2,400

D. 24,000

d. $\frac{1}{7}$ of 28 =

A. $\frac{1}{8}$ of 32

B. $\frac{1}{5}$ of 30 5 cm

C. $\frac{1}{6}$ of 48

D. $\frac{1}{9}$ of 18

e. The perimeter of the square

A. 20

B. 25

C. 10

D. 30

2. Complete.

- a. Eight hundred sixty-three thousands, five hundred seven in standard form is -
- **b.** The place value of the digit 7 in 762,435 is ———

d. =
$$100,000 + 7,000 + 30 + 5$$



A factory produces 800 cans of soft drink every day.

How many cans the factory produces in a week?

4. Write the greatest number and smallest number can be formed from 9, 4, 0, 3, 1, 6.

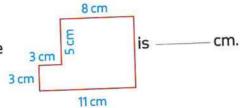
- The greatest number : ———

- The smallest number : ———

Revision 3

1. Complete.

- **a.** $-----\div 4 = 8$
- **b.** $[5 \times 6] \times 7 = ---$
- c. The perimeter of the shape



- **d.** 8,762 7,648 = —
- e. The smallest number formed from 2,7,0,6,5 is —

2. Choose the correct answer.

- a. The value of the digit 3 in 721,362 is
 - A. 30,000
- **B.** 3,000
- **C.** 300
- D. 30
- **b.** The area of the rectangle whose length is 10 cm and width is 7 cm is ——— square cm.
 - A. 17

- B. 34
- **C.** 70
- D. 44

c.
$$= 1,000 + 900 + 70 + 2$$

- A. 19,472
- B. 1,927
- C. 10,972
- D. 1,972

- A. 7,910
- B. 70,910
- C. 79,010
- D. 70,091

A. 6

- B. 5
- C. 7
- D. 8

Arrange the following from least to greatest.

$$5\times12$$
 , 7×8 , 3×10 , 6×9 , 8×1

The order is: ______,____

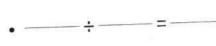
4. Bassem has 72 marbles, he wants to put each 8 marbles in a bag.

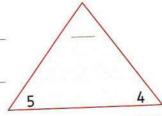
How many bags does Bassem need?

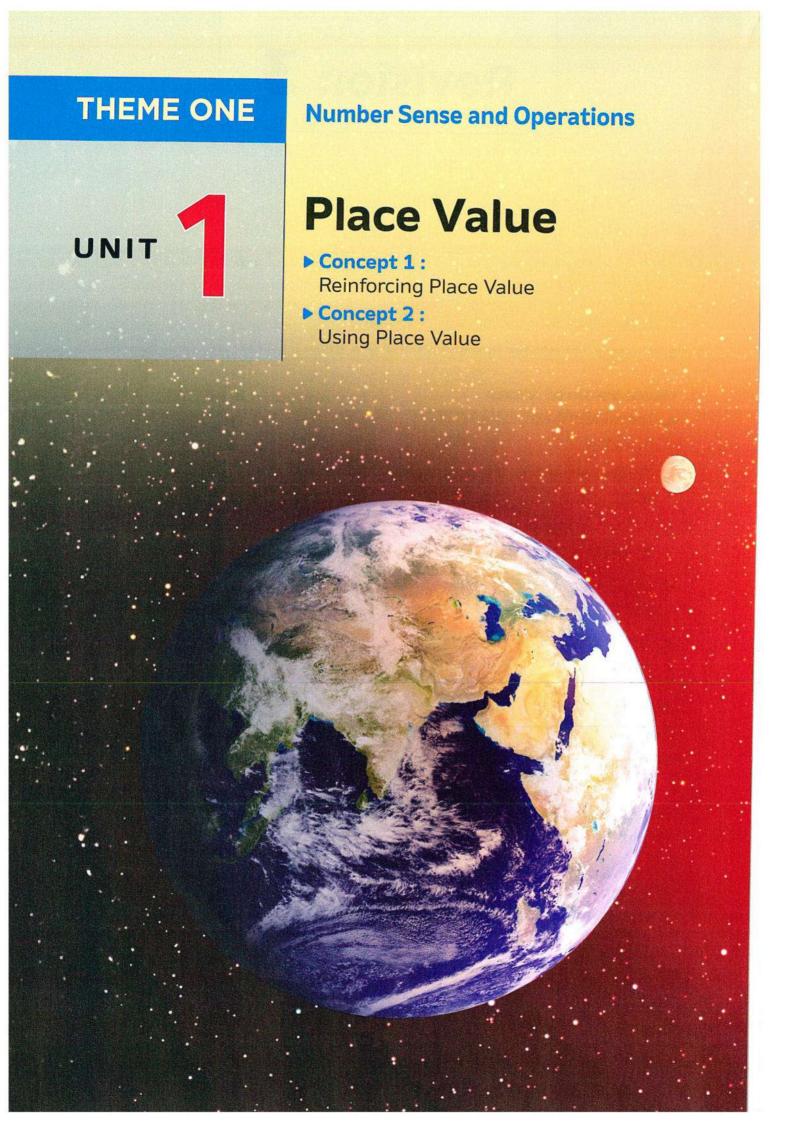
5. Find the product. Write the fact family.











CONCEPT

Reinforcing Place Value

▶ Lessons 1&2

Big Numbers! Changing Values

Learning Objectives:

- Students will identify all whole number place values through the One Milliard place.
- Students will explain how the value of a digit changes based on its place in a number
- Students will explain how the value of a digit changes as it moves to the left in a whole number.
- Students will describe patterns they observe in changing place values.

▶ Lessons 3&4

Many Forms to Write Numbers Composing and Decomposing

Learning Objectives:

- Students will write numbers in standard, word, and expanded forms.
- Students will compose and decompose number in multiple forms.

Fast Fact

- ► The distance between the Earth and the Sun is about 149,598,000 km.
- ► The least distance from the Earth to the Moon is about 384,402 km. which equals 384,402,000 m.

Lessons

1&2

- **▶** Big Numbers!
- Changing Values



Remember The place value

The value of each digit in any number depends on its place in this number.

For Example:

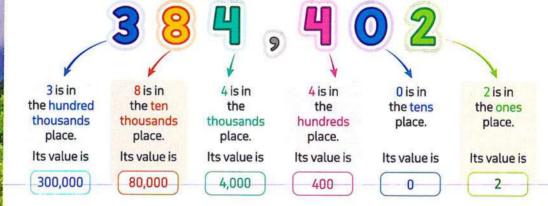
The least distance from the Earth to the moon is 384,402 km.

Notice the value of each digit in the number 384,402.

PERIOD ———		+PE	RIOD		
THOUSANDS		0	NES		
Hundreds	Tens	Ones	Hundreds	Tens	Ones
3	8	4	4	0	2

Note that:

Each group of three digits is called a period. Each period has ones, tens and hundreds in it.



value

Example

Write the place value and the value of the colored digit.

	place value	value
a. 7 <mark>9</mark> ,285		
b. 980,7 <mark>5</mark> 8		
c. 2 9,510		
d. 220 089		

place value

Solution [V]



place value	value
thousands	9,000

-		
h	tens	50
W .	CCIIO	1 00

d. (hundreds	0

Notes for parents:

Let your child remember that the position of a digit in a number determines its value.

Learn 1 Really big numbers

Million

- You know that the greatest 6-digit number is 999,999.

 The number which comes just after 999,999 is 1,000,000. It is read as one million which is the smallest 7-digit number.
- To show 1,000,000 in the place-value chart, a period for Millions has to be added to the left of the Thoudsands period.

PE	RIOD -		PE	RIOD -	-	PE	RIOD -		
MILLIONS			THOL	JSAND	5	ONES			
Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	
		1	0	0	0	0	0	0	

Written as: 1,000,000

Read as: One million

More about millions

Egypt population in 2020 was 102,334,404 look at this number on the place-value chart.



-	PERIOD		1	PERIOD		l——	PERIOD	
N	ILLION	S	T	HOUSAN	DS		ONES	
Н	T	0	Н	Т	0	Н	T	0
1	0	2	3	3	4	4	0	4
Hundred Millions place	Ten Millions place	↑ Millions place	Hundred Thousands place	Ten Thousands place	† Thousands place	† Hundreds place	↑ Tens place	Ones place

This number read as:

One hundred two million, three hundred thirty-four thousand, four hundred four.

or in a short way: 102 million, 334 thousand, 404

Math tip

The place-value chart helps you read greater numbers. You say:
"102" then at the comma you name the period,
"million".

[•] Help your child apply and extend understanding of the place value system to multi-digit whole numbers.

Example 2

What is the place value and the value of each underlined digit?

583,460,905

583,460,905





Place value: Ten Millions

Value: 80 million

Or: 80,000,000

Place value: Ten Thousands

Value: 60 thousand

Or: 60,000

Place value: Millions

Value: 3 million

Or: 3,000,000

Place value: Tens

Value: 0 ten

Or:0

Milliard (Billion)

China has the world's largest population. In 1980, the population of China reached about 1,000,000,000. It is read as one milliard (or one billion).

To show 1,000,000,000 in the place-value chart, a column for Milliards has to be added to the left of the Millions period.



	PE	RIOD -		PE	RIOD -		PE	RIOD -	100000
MILLIARDS	MIL	LIONS		THOL	ISAND	S	0	NES	
Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones	Hundreds	Tens	Ones
1	0	0	0	0	0	0	0	0	0

Written as: 1,000,000,000

Read as: One milliard

Notes for parents:

Ask your child to tell you the value and the place value of each digit in the number: 243,019,507.

More about milliards

The world's population in 2020 was about 7,794,798,739 Look at this number on the place-value chart.

1	P	ERIOD -		P	ERIOD -		P	ERIOD -	
MILLIARDS	MI	LLIONS		THO	USAND	S	(ONES	
0	Н	T	0	Н	T	0	Н	Т	0
7	7	9	4	7	9	8	7	3	9

This number read as:

Seven milliard, seven hundred ninety-four million, seven hundred ninety-eight thousand, seven hundred thirty-nine.

or in a short way:

7 milliard, 794 million, 798 thousand, 739



In the number 3,418,079,265, what digit is in the:

- a. Thousands place?
- b. Ten Millions place?
- c. Milliards place?
- d. Hundred Thousands place?





a. 9

b. 1

c. 3

d. 0

How to read a large number?

- 1 Divide the number (from right to left) into "periods" each period contains 3 digits.
- 6,208,196,318
- Use the place-value chart to help you read the large number.

H	P	ERIOD -		P	ERIOD -		P	ERIOD -	
MILLIARDS	MI	LLIONS		THO	USAND	S	(DNES	
0	Н	T	0	Н	Т	0	Н	T	0
6	2	0	8	1	9	6	3	1	8
6 milliard	208	million		196 t	housan	d		318	1

· Help your child use periods to read multi-digit numbers in an easy way.

3 Start from the left and read the number in each period followed by the period name as follows.

Reading

6,208,196,318

Six milliard, two hundred eight million, one hundred ninety-six thousand, three hundred eighteen.

In a short way: 6 milliard, 208 million, 196 thousand, 318

Example 4

Choose the correct answer.

- 1. 4 milliard, 103 million, 905 thousand, 484 =
 - A. 43,509,458
- **B.** 403,590,548
- C. 4,103,905,484
- D. 4,950,854
- 2. Forty-three million, five hundred nine thousand, four hundred fifty-eight = -
 - A. 43,509,458
- **B.** 403,590,548
- C. 4,103,905,484
- **D.** 4,950,854

- **3.** 403 million, 590 thousand, 548 =
 - **A.** 43,509,458
- **B.** 403,590,548
- C. 4,103,905,484
- **D.** 4,950,854

- 4. The value of the digit 3 in the Hundreds place is ——
 - **A.** 3

B. 30

C. 300

D. 3,000

Solution [V]

1. C

2. A

3. B

4. C

V

Check your understanding

- 1. In each of the following numbers.
 - underline the digit in the Hundred Thousands place.
 - circle the digit in the Ten Millions place.
 - draw a square around the digit in the Milliards place.
 - a. 7,561,492,048
- b. 3,914,500,721
- 2. Read the following numbers.
 - a. 912,031,301

- **b**. 70,804,230
- c. 5,003,521,216

- 3. What is the value of each of the following.
 - a. 8 in the Tens place?
- b. 5 in the Ten Thousands place?

Notes for parents:

· Ask your child to write a number through milliard and then ask him/her to read it loudly.

Learn 2 Changing place values

- The value of a digit changes as it moves to the left within a number.
- Our place-value system is based on tens. Each place value in this system is 10 times the one to the right of it.



×	10 ×1	0 × 1	0 ×10	×1	0 ×	10
Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	2	2	2	2	2	2
2,000,000	200,000	20,000	2,000	200	20	2

- A digit in one place equals 10 times the digit in the place to its right. For Example: The Hundreds place is 10 times the Tens place, so the value of 2 changes from 20 to 200.
- Observe the pattern in the number of zeroes.

Example 5

Fill in the blanks below.

- a. The value of the digit 3 in the number 7, 431, 210 equals times the value of the digit 3 in the number 4, 563, 809
- **b.** The value of 7 in the Thousands place = ———— times the value of 7 in the Tens place.
- **c.** is 10 times one hundred thousand.
- **d.** 30 tens equals _____ **e.** 7,000 thousands = __ —— millions.

Solution [V]



a. 10

b. 100

c. 1,000,000

- **d.** $300 \text{ (think}: 30 \times 10 = 300)$ **e.** 7 (think: 7,000 thousands = 7,000,000)

check your understanding

How does the value of 5 change as it moves from the Hundreds place to the Thousands place?

 Let your child understand that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

Exercise 1

on lessons 1&2

- ▶ Big Numbers!
- **▶** Changing Values
- REMEMBER
- UNDERSTAND
- O APPLY
- PROBLEM SOLVING

III From the school book

Complete the table as in the example.

		MILLIARDS	М	ILLIO	NS	THO	DUSA	NDS		ONES	
	Number	0	Н	Т	0	Н	Т	0	Н	Т	0
Ex.	5,604,453,987	5	6	0	4	4	5	3	9	8	7
a.	8,714,326,518		-			3,440					
b.	753,009,300										
c.	7,354,621				-						
d.	8,000,300	200								-	
e.	923,508	8 					S				

- 2. In the number 1,542,345,678, What digit is in the
 - a. Tens place?_____
 - c. One Thousands place?_____
 - e. Ten Millions place?
- b. Hundreds place?_____
- d. Hundred Thousands place?_____
 - f. One Milliards place?
- 3. Write the value of the underlined digit according to its place in each number as in the example.
 - ▶ Example: 47,209,531 → 40,000,000
 - **a.** 58,486,098 ->
 - c. 62,478,300 -->
 - e. 24,041,683 ->
 - g. 41,691,403 ->
 - i. 669,<u>0</u>84,422 —>
 - k. 30,30<u>3</u>,333 _____

- **b**. 3,784,168,411 ->>
- d. 462,417 —>
- f. 8,000,418,617 --->
- **h.** 321,428,218 ____
- **j.** 7,261,909 →
- l. 61,230,478 ->

[El-Monofia - Shebin El Koum 22]

4.	Comp	lete.
	P	

- a. The place value of the digit 2 in the number 2,500,000 is ________ [Souhag 23]b. The place value of the digit 3 in the number 1,365,854 is _______
- (Giza Abo El-Nomros 23)
- c. The place value of the digit 3 in the number 23, 174, 265 is ______

[Giza - 6th October 22]

- d. The place value of the digit 9 in the number 91, 300, 122 is _______ [Alex. Agmy 24]
- e. The place value of the digit 0 in the number 5, 321, 041, 758 is
- f. The value of the digit 5 in the number 346, 251, 813 is _____ [Cairo 23]
- g. The value of the digit 6 in the number 26, 715, 324 is _____(Cairo Math's Inspection 23]
- h. The value of the digit 6 in 61, 230, 478 is ______ [Kafr El-Sheikh 24]
- i. The value of 2 in the Tens place = _____
- j. The value of 7 in the Hundreds place = _____
- k. The million is the smallest number formed from _____ digits
- The milliard is the smallest number formed from ______ digits.
- m. The smallest number formed from the digits 9,7,6,8,3,1 and 4 is _____
- n. The smallest number formed from the digits 4, 2, 6, 0, 7, 5, 1 and 3 is _____
- o. The greatest number formed from the digits 8,1,3,4,5,0,9,7 and 2 is ______
- p. The greatest number formed from 7 digits is _____

5. Complete.

- **a.** 75, 421, 392 = _____ million , _____ thousand , ____
- **b.** 2,500,422,300 = _____ milliard, _____ million, ____ thousand, _____
- c. _____ = 701 million, 7 thousand, 700
- d. _____ = Two million, five hundred thousand, four hundred twenty-two.
- e. = 9 milliard, 9 million, 9 thousand, 9
- f. _____ = 27 million, 27 thousand.
- g. ____ = Sixteen milliard, sixteen.

6. Fill in the blanks as in the example.

75, ØØØ

- ► Ex. 23,8ØØ = 238 hundreds.
- 750 hundreds = 75 thousands.

• 60 tens = 600

	Section 2015 Committee Com	
-	56,000 =	thousands
a.	30,000 —	triousarius

c. 32,000 = _____ thousands.

d. 300 thousands = _____ hundreds.

f. 72,000 tens = _____ thousands.

h. 80 tens = _____ [El-Menia 23]

i. 40 tens = _____ [Cairo 23]

l. The value of 50 thousands = _____

b.	280.	000	=	hund	reds
----	------	-----	---	------	------

[El-Kalyoubia - Math's Inspection 23]

e. 55 thousands = hundreds.

g. 87,900,000 hundreds = _____ millions.

i. 30 tens = _____ [Cairo - El-Shrouk 23]

k. 60 thousands =

[Alexandria - Montaza 23]

7. Amir says that in the number 222, all of the digits have the same value. Do you agree or disagree? Use words and numbers to explain your thinking.

8. Fill in the blanks.

- a. is 10 times one hundred thousand.
- **b.** is 10 times two hundred.
- c. _____ is 10 times seven thousand.
- d. Hundred thousand is _____ times ten thousand.

Challenge

- Use the digits 5,7,3,1,8,2,9 and 6 to make the greatest number you can, then use the same digits to make the smallest number you can.
 - The greatest is

- The smallest is
- How did the value of 7 change from the greatest number and the smallest number? Why did it change? Use words and numbers to explain your thinking.



Multiple Choice Questions

Choose the correct answer.

1.	The digit in the Ten Tho	usands place in the numbe	r 1,351,278 is	[Luxor 24]
•	A. 3	B. 2	C. 5	D. 1
2.	The digit in the Hundre	d Thousands place in the nu		
	A. 1	B. 2	(El-Beheira 24)(El-Mo C. 4	onofia - Al-Shohdaa 24) D. 9
3.	Million is the smallest r	number formed from		- D1-+ El C-1 2()
	A. 5	B. 6	a 24][Ismailia 24][El-Monofi C. 8	D. 7
4.	Milliard is the smalles	st number formed from B. 8	digits.	[El-Menia 24] D. 10
5.	The place value of the o	digit 7 in the number 7,213,4 B. Ten Millions	455,686 is C. Milliards	(Kafr El-Sheikh 24) D. Ten Thousands
6.	The value of the digit 6 i A. 60,000	n the Ten Millions place equ B. 6,000,000		[Kafr El-Shiekh 24] D. 600,000,000
7.	The value of digit 7 in I	number 7,125,801 is B. 70	C. 7,000	- Maths' Inspection 23] D. 7,000,000
8.	The value of digit 6 in a	number 2,476,217 is B. 600	C. 6,000	Official Lang. School 23 D. 60,000
9.	The value of the digit (A . 0	in the number 301,572,94 B. 100	i1 is C. 1,000	D . 100,000
10.	The value of the digit 5 A. 5 millions.	in the number 2,456,300 B. 50 millions.	is C. 50 thousands.	D. 500 thousands.
11.	The period of the under A. Milliards.	erline digits in the number B. Millions.	25,613,729,114 is C. Thousands.	D. Ones.
12.	In which number does A. 538,419	the 8 have a value of eigh B. 781,015	nt hundred ? C. 271,825	D. 419,782
13.	The number in which t A. 821,730,521	he digit 7 has the greatest B. 152,007,000	t value is C. 51,078,623	D. 7,810,521
14.	In the number 34,042, t in the Tens place. A. 10	he digit 4 in the Thousand B. 100		times the digit 4 - Maths Inspection 22] D. 10,000
15.	If a digit moves one spa	ace to the left on the place B. 10	value chart, its value eq C. 100	ualstimes. D. 1,000

Lessons

3&4

- Many Forms to Write Numbers
- Composing and Decomposing

Learn 1 Many ways to write numbers

The distance between Jupiter and the sun is about 778, 340, 821 km.





MILLIONS			THOUSANDS			ONES		
Н	Т	0	Н	Т	0	Н	Т	0
7	7	8	3	4	0	8	2	1

Standard Form: 778, 340, 821

"Commas are used to show periods"

Expanded Form: 700,000,000 + 70,000,000 + 8,000,000

+300,000 +40,000 +800 +20 +1

"Zeroes are not needed in expanded form because there is nothing in that place value; as 0 in Thousands place".

Word Form: Seven hundred seventy-eight million, three hundred forty thousand, eight hundred twenty-one.

"Commas are used to separate Millions, Thousands and Ones periods".

Short-Word Form: 778 million, 340 thousand, 821.

Notes -

- We use standard form most often.
- Numbers written in expanded form show the value of each digit.

Notes for parents:

• Your child may be confused about how to represent a place value with a 0 digit in expanded form. For example: 30,456 = 30,000 + 400 + 50 + 6. The 0 is not represented in expanded form because in standard form the 0 represents that there is nothing in that place value.



Example 1

Write each number in standard form.

- a. 9,000,000,000 + 300,000,000 + 20,000,000 + 600,000 + 400 + 30
- b. Three milliard, six hundred million, five hundred forty thousand, six hundred fifty.

Solution [



a. 9,320,600,430

b. 3,600,540,650

Example 2

Write each number in word form.

- a. 4,008,011,091
- **b.** 60,000,000+7,000,000+200,000+40,000+500+10+3

Solution [V



- a. Four milliard, eight million, eleven thousand, ninety-one.
- b. Sixty-seven million, two hundred forty thousand, five hundred thirteen.

Example 3

Write each number in expanded form.

- a. 1,300,040,005
- **b.** 50,600,204

Solution [V



- a. 1,000,000,000 + 300,000,000 + 40,000 + 5
- **b.** 50,000,000+600,000+200+4

check your understanding

Complete.

- a. 5,000,000,000+70,000+1,000+40+9=(in standard form)
- b. Fifty-eight million, thirty-seven thousand, fourteen = ______ [in standard form]
- **c.** 3,300,030,303 = -[in word form]
- **d.** 7,608,490 = -(in expanded form)
- · Your child may struggle to say large numbers and need to be reminded to group the numbers into periods as he/she reads them aloud.
- Remind your child to use commas when writing numbers in the word form.

Composing and decomposing numbers Learn 2

- Composing numbers means (put together), and decomposing numbers means (broken apart).
- You can decompose the number 5, 456, 387 in different ways using place-value chart:

MILLIONS			Ţ	HOUSAND)S	ONES		
Н	Т	0	Н	Т	0	Н	Т	0
		5	4	5	6	3	8	7

▶ 1st way: Expanded Form:

5,456,387 = 5,000,000 + 400,000 + 50,000 + 6,000 + 300 + 80 + 7

▶ 2nd way:

 $5.456.387 = [5 \times 1.000.000] + [4 \times 100.000] + [5 \times 10.000] + [6 \times 1.000] + [3 \times 100]$ $+ [8 \times 10] + [7 \times 1]$

Example 4

Complete the following.

a. Composed: 8,035,402,176

Decomposed:

b. Composed:

Decomposed: $[7 \times 1,000,000] + [9 \times 100,000] + [8 \times 1,000] + [2 \times 10] + [5 \times 1]$

Solution [V]



- a. Decomposed: $[8 \times 1,000,000,000] + [3 \times 10,000,000] + [5 \times 1,000,000] + [4 \times 100,000]$ $+ [2 \times 1,000] + [1 \times 100] + [7 \times 10] + [6 \times 1]$
- b. Composed: 7,908,025

check your understanding

Complete the following.

a. Composed: 7,504,092,415

Decomposed:

b. Composed:

Decomposed: $[3 \times 1,000,000,000] + [2 \times 100,000,000] + [5 \times 10,000,000]$ $+ [4 \times 100,000] + [7 \times 10,000] + [8 \times 1,000] + [6 \times 10] + [9 \times 1]$

Notes for parents:

- Make sure that your child knows the difference between the terms compose and decompose.
- · Make sure that your child knows how to represent a zero in a place when the number is decomposed.

Exercise

2

on lessons 3&4

- ▶ Many Forms to Write Numbers
- ► Composing and Decomposing

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marine.				
	From	the	school	book

Many forms to write numbers

		ly rorms to write numbers
1.	W	rite each number in standard form.
	a.	Four hundred and nine [El-Monofia - Quesna 22]
	b.	34 million , 97 thousand [Giza - Kerdasa 22]
	c.	Three million, two hundred fourteen thousand, nine hundred thirty-six.
		[El-Menia - Samalot 22]
	d.	Five hundred twenty-seven million, nine hundred thousand, six hundred forty.
	e.	Three milliard, four hundred two million, seventeen.
	f.	20,000+7,000+400+20+2
	g.	70,000,000 + 126,000 + 450 [El-Menia - Der Mawas 22]
2.	Wr	rite the expanded form of each of the following.
	a.	1,756,300
	b.	54,632,405
	c.	701,462,051
	d.	9,989,791,985
	e.	35 million , 17 thousand , 230
		Two milliard , four hundred twenty million , three hundred fifty-two thousand , one hundred three
3.	Wr	ite each number in word form.
	a.	3,562,504
	b.	54,213,450
	С.	5.408.921.002

d. 700.000 + 60.000 + 20 + 9

e. 5.000.000.000 + 7.000.000 + 900.000 + 3.000 + 20

4. Complete the following.

- a. The standard form of the number "3 million, 21 thousands and 509" is ——— [Alex. Agmy 24]
- b. The standard form of the number "one million, twenty-four thousand" is —

[Alex. - Agmy 24]

- c. The standard form of the number "6 million, 221 thousand" is ———— [Alex. - Agmy 24]
- **d.** 8 million, 555 thousand, 666 = ----[Cairo 24]
- e. 5 milliard, 5 thousand and 5 = [El-Menia 24]
- f. 4 milliard, 25 million, 67 thousand, 59 = [Kafr El-Sheikh 24]
- (Giza 24) g. Three millions, three thousands, three in standard form is
- h. Five million, six hundred fifty thousand and sixteen is —— [Ismailia 24]
- i. 5,000,000 + 20,000 + 3,000 + 600 + 40 = [standard form]. [Alex. 24]
- j. 700,000 + 40,000 + 2,000 + 300 + 70 + 2 = -[El-Menia - Malawi 24]
- **k.** 4 + 500 + 3,000 + 800,000 = ----[El-Monofia - Berket El Sabaa 24]
- I. The number 6 million, 543 thousand, 210 in standard form is —

[Giza - October Gardens 24]

- m. The standard form of the number 1 million, 235 thousand and 789 is ______ [Souhag 23]
- n. 7.625 = 5 + 7.000 + 20 +(Aswan 23)
- o. 3.000,000 + 8.000 + 400 + 30 + 3 = [Alexandria - First Montaza 23]

Compsing and decomposing numbers

- Decompose the following numbers using expanded form.
 - a. 170,392 = ----+ + ----+ + ----+
 - **b.** 105, 208 = ----+ + ----+
 - c. 601,207 = [El-Menia 2022]
 - **d.** 2 million, 277 thousand, 191 = —
 - e. 17 million, 230 thousand, 14 = ---
 - f. Three milliard, one hundred thirty-seven million, six hundred nineteen thousand,

- 6. 🕮 Fill in the missing numbers. Use the place-value chart to help you.
 - a. Composed: 6,124,030,420

Decomposed:

MILLIARDS	MILLIONS		MILLIONS THOUSANDS			ONES			
0	Н	Т	0	Н	Т	0	Н	Т	0
					1		Participal (_

b. Composed:

Decomposed:

MILLIARDS	N	ILLION	IS	TH	OUSAN	IDS		ONES	
0	Н	T	0	Н	Т	0	Н	Т	0
5	4	0	0	1	5	9	0	2	4

c. Composed:

Decomposed : $(7 \times 1,000,000,000) + (5 \times 10,000,000) + (4 \times 10,000) + (3 \times 1,000) + (5 \times 100) + (9 \times 1)$

MILLIARDS	ľ	ILLION	IS	TH	OUSAN	IDS		ONES	
0	Н	Т	0	Н	Т	0	Н	Т	0

7. Complete the table.

	Composed	Decomposed
а.	4,040,400	
D.		[2 × 1,000,000,000] + [5 × 1,000,000] + [6 × 100,000] + [7 × 1000] + [9 × 100] + [2 × 10] + 7
.		9,000,000 + 50,000 + 3,000 + 700 + 60 + 9
i. 🗀	9,210,031,458	

Lessons 3 & 4 | • REMEMBER • UNDERSTAND • APPLY & PROBLEM SOLVING

Challenge

- 8. Write 16 ten thousands + 5 thousands + 64 tens in standard form.
- 9. Find two 9-digit numbers with the difference between them is one million.

and ————



Multiple Choice Questions

Choose the correct answer.

A. 720,351

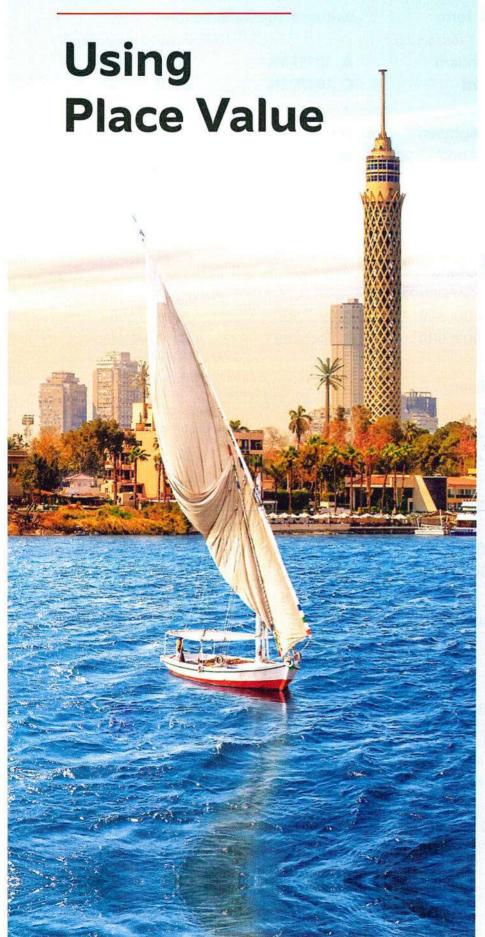
B. 702,305

 The number building of the number: 2. The number 10 million, 175 thousand, 314 is 9,231,043,204 is called form. written in the standard form [Aswan 23] [El-Monofia - Al-Shohdaa 24] A. decomposed B. standard A. 10,157,314 **B.** 10,571,413 C. expanded D. word C. 10,175,314 **D.** 10,751,314 3. What is the standard form of eighteen 4. The standard form of 5 million, 36 thousand million, six hundred five thousand? and 206 is [Cairo 23] [Alexandria - El-Montaza 22] **A.** 18,605,000 B. 81,605,000 **A.** 5,000,036,206 B. 5,036,206 **C.** 1,860,500 **D.** 18,650,000 C. 532,206 **D.** 5,360,206 5. The number 2 million, 300 thousand in Nine millions and six hundreds = _ standard form is _____ [El-Kalyoubia 23] (Souhag 24) **A.** 2,300,000 **B.** 2,000,300 A. 600,900 B. 900,600 C. 2,300 **D.** 2,003,000 C. 960,000 D. 9,000,600 8. 9,000,000 + 6,000 + 50 + 6 = -7. The number 1 milliard, 235 million, 127 in [Port Said 24] standard form = -[Cairo 24] **A.** 1,235,000,127 **B.** 1,235,127 A. 9,656 **B.** 960,666 C. 1,272,351 **D.** 1,235,127,000 C. 6,569 **D.** 9,006,056 9. 5,000,000 + 40,000 + 5,000 + 600 + 3010. The number 173 million, 904 thousand, 562 +4=-[Cairo - Misr El Kadima 24] in standard form is _____ [El-Dakahlia 22] **A.** 5,456,304 **A.** 173,000,904,562 **B.** 173,940,562 B. 5,045,634 C. 5,405,634 **D.** 504,534 C. 173,904,562 D. 173,562,904 11. The number 309,602 (in expanded form) 12. [3 × 1,000] + [3 × 10] = (El-Menia 24) is [Port Said 24] **A.** 300 **B.** 3,030 **A.** 2 + 60 + 900 + 3,000**C.** 3,300 **D.** 30,030 **B.** 2 + 600 + 9,000 + 30,000C. 2 + 600 + 9,000 + 300,000**D.** 2 + 60 + 9,000 + 300,00013. The composed number of $(7 \times 100,000) + (2 \times 1,000) + (3 \times 100) + (5 \times 1)$ is

C. 72,305

33

CONCEPT 2



Lessons 5&6

Comparing Big Numbers Comparing Numbers in Multiple Forms

Learning Objectives:

- Students will use place value to compare large numerals.
- Students will use symbols to express numerical comparisons.
- Students will compare numbers in multiple forms.
- Students will describe strategies for comparing numbers in multiple forms.

Lesson 7

Descending and Ascending Numbers

Learning Objectives:

- Students will order numbers in multiple forms.
- Students will describe strategies for ordering numbers in multiple forms.

Lesson 8

Rounding Rules

Learning Objectives:

- Students will apply multiple strategies to round numbers.
- Students will discuss whether rounding or front-end estimation provide a more accurate estimate.

Fast Fact

The Nile River is the longest river in the world. It has a length about [6,659 kilometers]. Compare its length with the Amazon. The Amazon is about [6,400 kilometers] long.

Lessons

5&6

- Comparing Big Numbers
- **▶** Comparing Numbers in Multiple Forms

Learn

How to compare numbers?

First Comparing numbers have different numbers of digits

When comparing numbers, the number which has more digits is the greater.

For Example: 5,302,200 > 899,529

because 5,302,200 has more digits than 899,529

Second Comparing numbers have the same number of digits

 You can compare two numbers with the same number of digits by starting at the left and moving right until you come to a pair of digits that do not have the same value.

For Example:

To compare 12,673 and 12,763. Start at the left. Check each place until the digits are different.

Step 1	Step 2	Step 3
Compare the Ten Thousands.	Compare the Thousands.	Compare the Hundreds.
12,673 same digit of Ten Thousands 12,763	12,673 same digit of Thousands 12,763	12, <mark>6</mark> 73 7 > 6 12, 7 63

Then 12,763 > 12,673

More Examples:

- 754,042 < 755,950
- 42,437 > 42,347

- 755,972 < 1,752,421
- 6,406,367
 6,406,367

Notes for parents:

· Ask your child to consider how many digits are in a number when he/she compares.

Example 1

Write (> , < or =) to compare.

- a. 37,048
- 37,184
- c. 4,010,065
- 4,000,056

- b. 217,906
- 271,906
- d. 810,340
- 810,340

Solution [V



- a. 37,048
- 37,184
- c. 4,010,065 > 4,000,056

- b. 207,906 < 271,906
- d. 810,340 = 810,340

Example 2

Complete.

- a. The smallest number formed from 3, 7, 1, 9, 2, 6, 5, is —
- **b.** The smallest number formed from 8, 5, 0, 1, 3, 9 is —
- c. The greatest number formed from 4, 2, 1, 3, 7, 6, 5 is
- d. The greatest number formed from 5, 0, 6, 2, 1, 7, 4 is -

Solution V



- To create the greatest number, arrange the digits from greatest to least.
- To create the smallest number, arrange the digits from least to greatest.
- **a.** 1, 235, 679

c. 7,654,321

- **b.** 103, 589
- **d.** 7, 654, 210

Note

If the digits contains "Zero" you can't put it on the left of the number.



check your understanding

Write [>, < or =] to compare.

- a. 2,346
- 2,338
- c. 723,215
- 723,215
- **e.** 503,278,105
- 503,279,100

- **b.** 478,765
- 479,112
- d. 752,321,271
- 72,321,271
- f. 7,492,102,235
- 7,491,102,235

Notes for parents:

· If your child has difficulty making comparisons, let him/her first circle the place where the digits are different.

Learn How to compare numbers in multiple forms?

- You can compare numbers in any forms: standard, expanded and word form.
- You may convert to standard form to compare, or use place value in expanded form or in word form to compare.

Example 2

Write (>, < or =) to compare.

70,000 + 4,000 + 50 + 7

70,000 + 4,000 + 500 + 70

Two milliard, seven hundred thirty-eight thousand, ten.

Two milliard, seven hundred thirty-five thousand, eleven.

C. 3,000,000 + 7,000 + 800 + 9 Three million, seven thousand, eight hundred nine.

 $[7 \times 1,000,000] + [5 \times 100,000]$ d. $+ (3 \times 1,000) + (4 \times 100) + (9 \times 1)$ 7,000,000 + 500,000 + 3,000 +400 + 90

Solution [V]



a. <

b. >

c. =

d. <

check your understanding

Write (>, < or =) to compare.

500,000 + 70,000 + 90 + 8a.

1,000,000 + 5,000 + 1

Three milliard, two hundred fiftyb. two thousand, three hundred four.

Three milliard, two hundred fifty-two thousand, thirty-four.

 $[8 \times 1,000,000] + [6 \times 1,000] +$ C. $[5 \times 100] + [7 \times 10]$

 $[8 \times 1,000,000] + [2 \times 10,000]$ $+ [6 \times 1,000] + [5 \times 100] + [9 \times 1]$

2,000,000,000 + 400,000,000 d. +2,000+30+2

2,000,000,000 + 50,000,000 + 8,000,000 + 9,000 + 50 + 9

· Your child may struggle with comparing numbers in word form or expanded form. He/she may convert to standard form to compare.

Exercise

3

on lessons 5&6

- ► Comparing Big Numbers
- ► Comparing Numbers in Multiple Forms

REMEMBER UNDERSTAND APPLY PROBLEM SOLVING							From the school book	
1. Compare. Write (> , < or =).								
	a. 707		770		b. 1,207		1,207	
	c . 10,	c. 10,525		10,255		19,098		
	е. Ш	123,568		123,978	f. 🕮	6,235,678	6,235,508	
	g. 📖	2,450,890,007		2,500,000,000	h. 7,79	98,562,415	7,798,567,999	
	i. 89	,418,147		89,418,247	j. 571	,600,254	571,600,329	
	k. 1,0	00,000,000	0	900,000,000	l. 100	0,000,000	99,999,999	
2.	2. Compare. Write (> , < or =).							
	a.		40,0	00			400 thousands	
	b.	7 t	en tho	usands			7,000	
	c.	7,	000 m	illions			7 milliards	
	d.	5 millia	rds, 367	thousands			5,367,000,000	
	e.	Ninety-seve	n millic	on, three hundred		90,000,00	0 + 7,000,000 + 3,000 + 1	
1	f. 🕮	5	,193,49	2,500		1	rd, three hundred million, indred fifteen thousand, forty-three.	
9	g. 🕮			[4 × 10,000,000] × 100] + [1 × 10]		70,000	+ 9,000 + 600 + 40 + 3	
ĵ	h. 🕮	8	3,040,76	51,903		1 (65) (756) (7	,000 + 400,000,000 + 60,000 + 1,000 + 900 + 3	

i. (1) Seventeen million, four hundred twenty-five thousand, six hundred five.

17,420,605

j. Four hundred twenty-three thousand, twelve

	_
1	
1	
1	-

400,000 + 30,000 + 2,000 + 20 + 1

3. Complete.

a. The smallest number formed from 8, 2, 9, 0, 5, 1, 7 = _____

(Souhag 24)

b. The smallest number formed from the digits 2, 0, 5, 3 is ———

[El-Monofia - Menof 24]

c. The smallest number formed from the digits 6, 0, 9, 8, 4, 2 and 3 is —

[Port Said 24]

d. The greatest number consists of the digits 9, 5, 0, 2, 8 is –

[Cairo - Helwan 24]

e. The greatest number formed from the digits 3, 7, 1, 0, 4, 2 is ——

(Port Said 24)

4. Find each missing digit.

- a. 6,106 > 6 19
- **b.** 2,117 = ____,117
- **c.** 4,382 < 4,3 \[2

- d. 91,472 > 9 ____,472
- e. 114,899 < 114, 99
- f. 703,9 1 = 703,981

- **g.** 11,234 > 1 ___,785
- **h**. 67,813 > 67,8 \(_ \) 3
- i. 82, 88 = 82,588

- j. 179,00 < 179,001
- **k.** 856, 34 < 856,134
- l. 683,129 < 6 3,129

5. Write a number.

- a. Create a number that is less in the Hundred Thousands place than (<) 893,820
- b. Create a number that is greater in the Millions place than (>) 178,462,490

[Cairo - Heliopolis 23]

- c. Create a number that is less in the Ten Millions place than [<] 32,427,400
- d. Write a number in expanded form that is equal to [=] 2,445,232,197

Challenge

- 6. Describe the error in the following number sentence, and then explain how you would correct it. 24,152,614 < 24,125,614
- 7. Which is greater, the number that is 1,000 less than 13,495 or the number that is 10,000 less than 23,495?

Multiple Choice Questions

Choose the correct answer.

2. 1,248,056 — 998,578

[El-Monofia - Sadat City 23]

B. <

C. >

A. >

9. 3,000 thousand — 9 hundred

thousand

[Alex. - Agmy 24]

10. 501 thousand — 3,000 thousand

[Alex. - Agmy 24]

[El-Monofia 24]

11. 9 million — 8,978,269

[El-Monofia - Menof 24]

12. 6 million, 400 thousand — 6, 040, 000

A. <

C. >

D. Otherwise

13. Which of the following statements is

TRUE?

[Cairo - Heliopolis 23]

A. 4646 < 4664

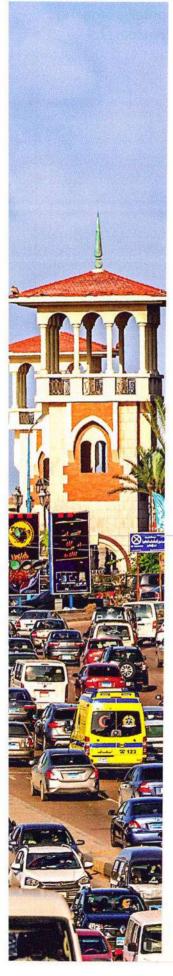
B. 4646 > 4664

C. 4664 > 4664

D. 4646 = 4664

14. Which number sentence is **NOTTRUE**?

Descending and Ascending Numbers

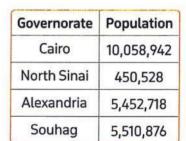


Learn Ordering numbers

The table shows the population of four governorates in Egypt in 2021.

You can order the governorates by their population from greatest to least as follows:

1. The number 10,058,942 has the most number of digits, so it is the greatest number.



- The number 450,528 has the least number of digits, so it is the least number.
- Compare 5,452,718 and 5,510,876 which have the same number of digits.
 Check each place until the digits are different.

Step 1		Step 2	
Compare the Millions.		Compare the Hundred Thousand	
5,452,718 , 5,510,876	same digit of Millions	5,452,718	5 > 4
	Then: 5,510,876	> 5,452,718	

From above:

10,058,942 > 5,510,876 > 5,452,718 > 450,528

In order of their population, the governorates are Cairo, Souhag,
 Alexandria and North Sinai.

Notes for parents:

· Remind your child to start comparison at the greatest place value.

Example 1

Write these numbers in an ascending order.

2,896,016

1,188,580

2,517,550

Solution [V]



Step 1	Write the numbers, lining		
otop i	up places. Determine the		
	smallest number.		

2,896,016

1,188,580 ← smallest

2,517,550

Step 2 Write the remaining 2,896,016

numbers, lining up places. Compare.

2,517,550 ← smaller

Step 3 Write the numbers from least to greatest.

2,517,550

2,896,016

Remember

numbers from least to

greatest.

Ascending order is ordering

Example 2

Write each of the following numbers in standard form, then arrange them in a descending order.

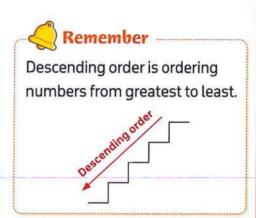
1,188,580

- $[7 \times 1,000,000,000] + [4 \times 10,000,000] + [5 \times 1,000] + [3 \times 100]$
- · Seven milliard, four hundred million, one thousand, two
- \bullet 7,000,000,000 + 500,000,000 + 600,000 + 300
- 745,300

Solution [V]



Standard form	Descendingly	
7,040,005,300	7,500,600,300	
7,400,001,002	7,400,001,002	
7,500,600,300	7,040,005,300	
745,300	745,300	



check your understanding

Arrange the following in a descending order, using the standard form.

- Three milliard, forty million, seventy-one thousand, ten.
- $[3 \times 1,000,000,000] + [5 \times 1,000,000] + [7 \times 1,000] + [1 \times 100] + [1 \times 10]$.
- \bullet 3,000,000,000 + 30,000,000 + 10

• 3,300,710,400

Notes for parents:

- · If your child has trouble ordering numbers, ask him/her to align the numbers vertically and compare digits from left to right.
- · Remind your child about the meaning of the two terms ascending order and descending order.

Exercise

4

on lesson 7

Descending and Ascending Numbers

•	REMEMBER OUNDERSTAND APPLY & PROBLEM SOLVING	III From the school book				
1.	Write the numbers in an ascending order.					
•	a. 8,092,561 , 9,208,111 , 7,534,786 , 8,650,336	[El-Beheira 23]				
	The order is: , , , , , , , , , , , , , , , , , , ,	· ,				
	b. 1,282,756 , 3,012,427 , 988,423 , 3,105,338	[El-Monofia - Sadat city 23]				
	The order is:	. ,				
	c. 430,000,459 , 43,000,549 , 403,000,456 , 430,549,000					
	The order is:,,,	,				
2.	Write the numbers in a descending order.					
•	a. 450,321 , 504,321 , 321,405 , 342,150 , 540,312	[Giza 23]				
	The order is:	,				
	b. 6,562,942,735 , 6,942,735 , 6,562,942,375 , 6,942,537					
	The order is:,,	,				
	c. 4,237,651 , 4,273,653 , 495,627 , 4,237,690					
	The order is:	,				
3.	List the following data in a descending order. You may use wo	rd or standard form.				
•	• Three milliard, ten million, one thousand, thirty-four.					
	• Three milliard, one million, three hundred twenty-three thousand, three hundred ninety-one.					
	Three milliard, nine hundred ninety thousand, nine hundred ninety-two					
	 Three milliard, one hundred ten million, ninety-nine thousand, for 	ır hundred ninety-three.				

V/100	0.8 0.00	420 Int 920	121	52			
4.	List the	following	in an	ascending	order.	Use standard	form.

a. . • 654,301

• Six hundred fifty-four thousand, three hundred ten.

• 604,320

• 654,311

Five hundred ninety-nine thousand, three hundred ten.

The order is:

b. •
$$3,000,000 + 400,000 + 5,000 + 3$$

Three million, four hundred fifty thousand, three.

• 3,453,000

• 3,450,030

The order is: -

5. List the numbers in a descending order. Use standard form.

a. • Two milliard, four million, seven hundred thousand.

• 2,400,700,000

• 2,040,007,000

Three milliard.

The order is:

b. • 5,000,000,000 + 40,000,000 + 5,000,000 + 7,000 + 90

- $(6 \times 1,000,000,000) + (3 \times 10,000,000) + (5 \times 1,000,000) + (6 \times 10,000) + (9 \times 100)$
- Five milliard, forty-one million, seven thousand, ninety
- 6,000,000,000 + 40,000,000 + 5,000,000 + 10,000 + 7,000 + 90
- 6,025,060,990

The order is:

	 a. 461,014 • Four milliard, six hundred thousand, four. • 461,014 • Four milliard, six hundred thousand forty. • [4 × 1,000,000,000] + [4 × 100,000] + [6 × 10] • 6,400,042 The order is: 					
	 b. • Nine million, seven hundred thirty-one th • 90,731,007 • 9,000,000 + 700,000 + 40,000 + 50 The order is: 	900,080,500Seven hundred	d million, eighty-four.			
7.	List the numbers in a descending order. Use a. • 900 thousand. • 5 million and 7 hundred thousand. The order is:	9 million.550,223	(Giza - El-Haram 22)			
	b. • Four milliard, six hundred thousand, four.• 461,014					
	 Four milliard, six hundred thousand, forty [4 × 1,000,000,000] + [4 × 100,000] + [6 × 6,400,042 					
	The order is :					
P	Challenge					
**	The following numbers are arranged in a desc $3,751,924,096 \longrightarrow 3,751,924,069 \longrightarrow 3,751,$ If you replace each 6 by 9 and each 9 by 6, wh	624,096	24,069			

Choose the correct answer.

- 1. Which of the following shows the numbers in a descending order?
 - A. 580,735,757,573

B. 735,508,573,757

C. 735,757,573,580

- **D.** 757,735,580,573
- [Giza Awseem 22]

2. Which of the following is a correct ascending order?

[Cairo - Heliopolis 23]

A. 757,573,508,735

B. 573,757,735,580

C. 573,580,735,757

- **D.** 580,573,757,735
- 3. Which choice shows the numbers in a descending order?
 - **A.** 1. 3,456,871
- **B.** 1. 7,456,232
- C. 1. 5,786,321
- D. 1. 1,263,572

- 2. 3,578,462
- 2. 6,785,000
- 2. 5,795,786
- 2. 12,213,573

- 3. 987,541
- 3. 6,670,785
- 3. 5,895,432
- 3. 4,262,563

- 4. 5,743,261
- 4. 5,700,726
- 4. 6,721,000
- 4. 1,000,000,000

- 5. 8,784,561
- 5. 5,700,624
- 5. 7,000,000
- 5. 7,865,321,000

- 4. Given the following numbers :
 - a $[6 \times 100,000] + [4 \times 10,000] + [5 \times 1,000] + [3 \times 100] + [1 \times 1]$
 - b Six hundred fifty-three thousand, three hundred, ten.
 - c 604,302
 - d Five hundred eighty-eight thousand, three hundred, ten.

Which choice shows these numbers in an ascending order?

- A. a, c, b, d
- B. d, c, a, b
- C. d, b, a, c
- D. d, a, c, b
- 5. Which of the following digits makes the sentence true ? 785 > 7 5 > 755
 - A. 2

B. 4

C. 6

- D. 8
- 6. The table below shows the average distances from the planets to the Sun.

Valled and the second				
Planet	Jupiter	Mars	Venus	Earth
Distance from the Sun in km	778,340,821	227,943,000	108,209,000	149,598,000

Which planet from above is nearest to the Sun?

- A. Jupiter
- B. Mars

C. Venus

D. Earth

8

Rounding Rules



Learn

Different ways to round a number

A roller coaster that is 2,181 meters long. About how long is the roller coaster?

Since you do not need an exact number, you can **estimate** by **rounding** the number.



Different Ways to round 2,181 to the nearest thousand.

Way 1 You can use (midpoint strategy).

2,181 is closer to 2,000 than to 3,000 3,000 = So, round 2,181 to 2,000 = Written as 2,181 \approx 2,000 and read as 2,181 approximately equals 2,000 = 2,500 = Midpoint 2,181

Way 2 You can use (place value strategy)

Step 1

Find the place you want to round to.
Circle the digit in that place.

(2),181 Thousands place

Step 2

Look at the digit to its right. Underline that digit.

2, 181 digit to the right

Step 3

- If the underlined digit is 5 or greater, round up.
- If the underlined digit is less than 5, round down.
- Change each digit to the right of the rounding place to 0
- 1 is less than 5, so

2,181 rounds to 2,000

Then, the roller coaster is about 2,000 meters long.

Notes for parents:

 Remind your child to round up if the digit to the right of the place value he/she wants to round to is equal to or greater than 5.

Example

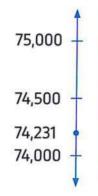
Use the midpoint strategy to round each of the following.

a. 74,231 (to the nearest 1,000)

Solution [V]

a. 74,231 is between 74,000 and 75,000 then

 $74,231 \approx 74,000$



- **b.** 9,360 (to the nearest 100)
- 9.400 **b.** 9,360 is between 9,300 and 9,400 then $9,360 \approx 9,400$ 9,300

Example 2

Use the place value strategy to round each of the following.

- a. 2,618 (to the nearest 10)
- c. 3,697,852,721 (to the nearest Ten Million)
- e. 999,999 (to the nearest Ten Thousand)
- **b.** 174,568 (to the nearest 10,000)
- d. 7,556,462 (to the nearest Million)
- f. 13,999,999 (to the nearest Hundred)

Solution [V



c.
$$3,697,852,721 \approx 3,700,000,000$$

f. 13,999,999 ≈ 14,000,000

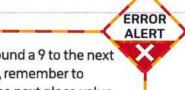
Rounding Rule:

Circle the digit, look next door. 5 or higher? Add one more. 4 or less? Let it rest.

Remember

The digits to the right become zeroes.

When you round a 9 to the next greater digit, remember to regroup to the next place value.



check your understanding

Round the following.

to the nearest a. 85,721 -1,000

c. 3,895 $\frac{\text{to the nearest}}{\text{Hundred}}$

to the nearest

Notes for parents:

If necessary, allow your child to write the standard form of the number before rounding.

Exercise

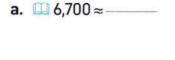
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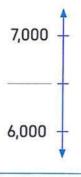
on lesson 8

Rounding Rules

•	REMEMBER • UNDERSTAND • APPLY	PROBLEM SOLVING	From the school book
1.	Round the numbers to the nearest a. $423 \approx$ b. $549 \approx$		d. 1,287≈——
2.	Round the numbers to the nearest		d. 1,952≈——
3.	Round the numbers to the nearest a. $8,090 \approx$	Thousand. b.	
4.	Round the numbers to the nearest a. 37,205≈—— c. □ 290,290≈——		-
5.	Round the numbers to the nearest a. 483,267≈—— c. 449,300≈——		(6
6.	Round the numbers to the nearest a. □ 5,367,544 ≈ ——— c. 135,984,600 ≈ ———	Million. b. 20,843,267≈— d.	
7.	Round the numbers to the near a. $5,266,747,023 \approx$		
8.	Complete. a. 3,446 ≈ [to the nearest] b. 56,621 ≈ [to the nearest] c. The number 543,186 to the nearest d. The number 163,518,943 to the nearest e. 34,279 ≈ [to the nearest 1]	t Thousand) t Thousand is ————earest Million is ———— t Ten Thousand)	(Cairo 24) [Alex El-Montaza 24] [Cairo - Heliopolis 22) [Matrouh 22] [El-Monofia - Sadat City 23] [Cairo - El-Nozha 23]
	g. 16,401≈——— (to the nearest	[Alex El-Montaza 23]	

9. Round each of the following by using the midpoint strategy, record the midpoint of the number line and the place of each number, then round to the nearest Thousand.





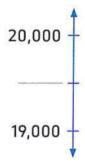
b. ■ 9.340 ≈



c. 16,401≈-



d. 19,654≈



- 10. Draw the number line, label the midpoint, and then round each of the following numbers.
 - a. 250,000 (to the nearest Hundred Thousand)
- b. 49 700,500 (to the nearest Hundred Thousand)
- c. 362,261 (to the nearest Ten Thousand)
- d. 36,951 (to the nearest Hundred)
- 11. Write 5 numbers if rounded to the nearest Thousand the result is 312,000.



12. What is the greatest whole number that rounds to 300,000? What is the least?

Multiple Choice Questions

Choose the correct answer.

 6,438 ≈ 6,400 (to A. Unit C. Hundred 	the nearest] [El-Menia - Dier Mawas 24] B. Ten D. Thousand	2. 25,638 ≈ 26,000 (ro nearest ————————————————————————————————————	
A. Million	D,000 to the nearest (Cairo 24) B. Milliard usand D. Ten Thousand	4. 2,357 ≈ [nearest Ten] A. 2,360 C. 2,350	Frounding to the [Giza 23] B. 2,358 D. 2,400
	ating the number 3,629 undred, the result [Souhag 23] B. 3,700 D. 3,620	6. A bee hive contains number of bees to Thousand is [El-Mon A. 100,000 C. 102,010	the nearest Ten
7. 614,231≈ — [r Hundred Thousa A. 600,000 C. 614,000	o al e	8. Rounding the num nearest Ten Thousa (Be A. 34,000 C. 30,000	
9. Rounding the numerous Million isA. 2,000,000C. 4,000,000	mber 3,854,125 to the [Giza - October Gardens 24] B. 3,000,000 D. 5,000,000	10. Which answer reprint 32,582,346 to the notice (Gize A. 30,000,000 C. 32,000,000	
11. Which answer col 120,000 when rou Thousand? A. 125,678 C. 112,625	ud be rounded to nded to the nearest Ten [Suez 22] B. 116,034 D. 20,789	12. Round 6,749,001,557 Milliard. A. 6,000,000,000 C. 6,700,000,000	B. 7,000,000,000 D. 8,000,000,000

Unit One Assessment



1. Choose the correct answer.

1.	The digit in ten thou	usands place in the numbe	er 6,387,512 is ————	(El-Menia 23)
•	A. 3	B. 4	C. 7	D . 8
2.	Milliard is the smal	lest ——— - digit numl	oer.	(Cairo 23)
•	A. 5	B. 10	C. 9	D. 8
3.	The place value of t	he digit 6 in 56,724,033 is -	(El-Beheira - M	lath Inspection 23)
	A. Thousands.		B. Hundred Thousand.	
	C. Millions.		D. Ten Million.	
4.	The value of the dig	jit 3 in 53,496,752 is ———		(Aswan 23)
•	A. 30	B. 30,000	C . 3,000,000	D. 300,000
5.	Rounding the number	per 34,089 to the nearest T	en Thousand is ———	
O			(Ca	iro - Heliopolis 23)
	A. 34,000	B. 34,090	C. 30,000	D. 35,000
6.	The standard form	of : three hundred thirty-t	wo million, forty-five thous	sand, two
	hundred five is —		(Cairo - Helwan 24)
	A. 205,045,332	B. 332,045,205	C. 231,430,24	D. 231,043,042
7.	3,752,000 ———	three milliard, twenty.		
	A. >	B. <	C. =	

2. Complete the following.

1.	One million is the smallest number formed from ———— digit	s. [Aswan 23]
2.	The smallest number formed from the digits 9, 4, 2, 6, 0, 5, 1 is $-$	[Giza 24]
3.	The value of the digit 6 in 61,230,478 is	(Cairo - Misr El-Kadima 24)
4.	The place value of 2 in the number 6,268,503 is	[Kafr El-Sheikh 24]
5.	80,000,000 + 124,000 + 650 =	
6.	735,462 ≈ ——— [Rounded to the nearest Ten Thousand]	
7.	3,504,800,501 in expanded form is ————	
8.	$5,856,469 \approx 5,900,000$ [Rounded to the nearest]	

17-22				
7	Choose	tha	corroct	SHOULDE
J.	CHOOSE	uie	COLLECT	answer.

1. Rounding 32,582,346 to the nearest Million equals —

[Cairo - Misr El-Kadima - 24]

- A. 30,000,000
- **B.** 32,600,000
- **C.** 32,000,000
- **D.** 33,000,000

- 2. The largest 5-digit number is -
 - **A.** 10,000
- **B.** 100,000
- C. 99,999

D. 98,765

3. 100,000 is -

times the number 10,000

- A. 10
- **B**. 100

C. 1,000

- **D.** 10,000
- 4. What is the standard form for three milliard, seven hundred thirty-five thousand, fifty?
 - **A.** 3,735,000,050
- **B.** 3,735,500
- C. 3,000,735,050
- D. 3,735,050
- 5. Rounding the number 765,017 to the nearest Hundred Thousand is _____ [Alex.-Al-Agamy 23]

- A. 770,000
- B. 800,000
- **C**. 700,000
- **D.** 760,000
- **6.** $[6 \times 1,000,000] + [5 \times 100,000] + [3 \times 1,000] + [2 \times 100] = --$

[Port Said - 24]

- A. 2,305,600
- B. 3,605,200
- C. 6,305,200
- D. 6,503,200
- 7. The place value of the digit 3 in the number 5,316,725,891 is —

(Ismailia 24)

A. Milliards

B. Hundred Millions

C. Ten Millions

D. Hundred Thousands

Answer the following.

- 1. A plane's altitude increased by 2,721 meters. Round this number to the nearest Hundred.
- 2. Use the digits 7,4,2,0,3,5,6,8 to make the greatest number you can. Then use the same digits to make the smallest number you can and round each number to the nearest Million.
- 3. Arrange the following numbers in: 6,362,012 / 2,265,698 / 13,561,954 / 5,364,569

[Giza - October Gardens 24]

- a. A descending order: ______,___
- **b.** An ascending order: ______, ____
- 4. Compose and decompose the following number.

MILLIARDS	N	1ILLION	S	TH	OUSAN	IDS		ONES	
0	Н	T	0	Н	Т	0	Н	Т	0
2	8	0	5	4	0	0	6	9	3

Composed: -

Decomposed: —

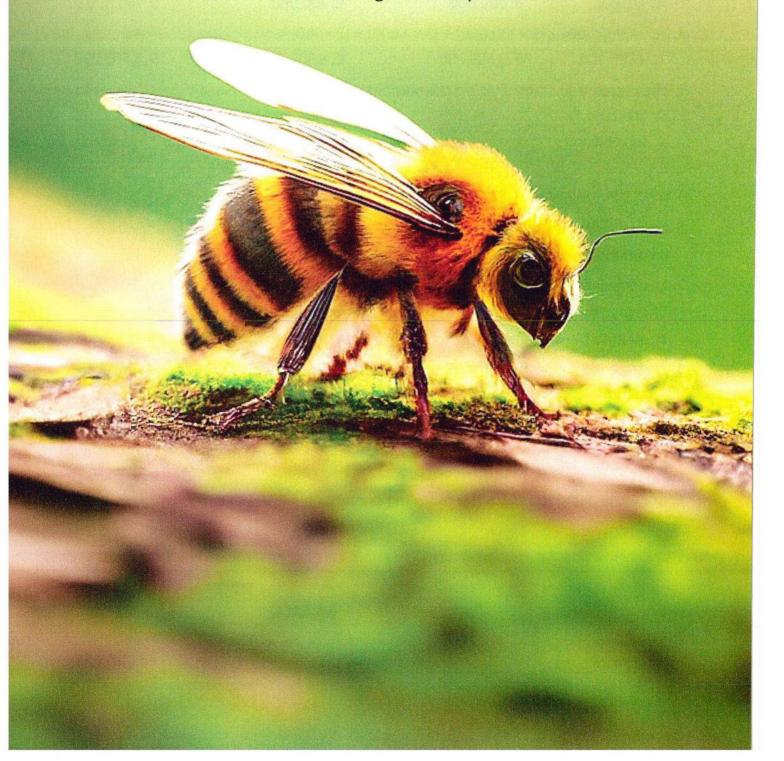
THEME ONE

Number Sense and Operations

UNIT 2

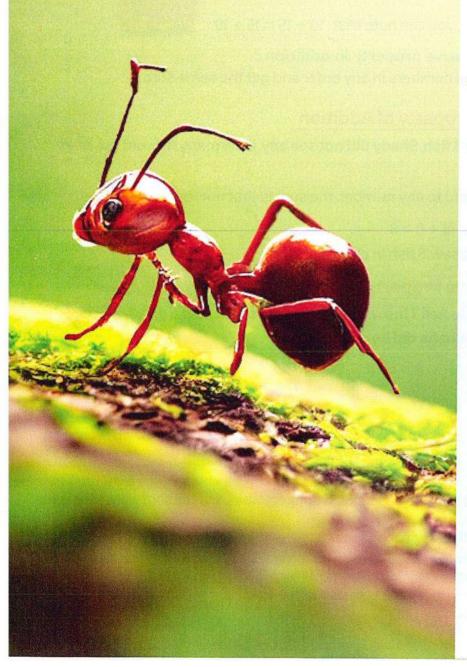
Addition and Subtraction Strategies

- ► Concept 1:
 Using Addition and Subtraction Strategies
- ► Concept 2 : Solving Multistep Problems



CONCEPT

Using Addition and Subtraction Strategies



▶ Lesson 1

Properties of Addition

Learning Objectives:

- Students will identify the properties of addition and subtraction.
- Students will explain the properties of addition and subtraction.
- Students will investigate to determine whether addition properties apply to subtraction.

▶ Lesson 2

Addition with Regrouping

Learning Objectives:

- Students will add multi-digit whole numbers.
- Students will estimate to determine if their answer is reasonable.

▶ Lesson 3

Subtraction with Regrouping

Learning Objectives:

- Students will use place value to help subtract using the standard algorithm.
- · Students will subtract with regrouping.
- Students will estimate to check the reasonableness of their answers.

Fast Fact

There are over 12,000 ant species worldwide.

There are about 20,000 different species of bees in the world.

What is the difference between them ?!

1

Properties of Addition



What are the addition properties?

Addition properties are rules for addition that are always true.

- Commutative property.
- Identity property.
- Associative property.

Commutative Property of Addition

Sara has two boxes of apples. One of them contains

15 apples and the other one contains 10 apples

How many apples are there in the two boxes?

So, you can note that 10 + 15 = 15 + 10



You can add numbers in any order and get the same sum.

Identity Property of Addition

Maged saw 8 fish. Shady did not see any. How many fish did the boys see in all?

If you add zero to any number, the sum is that number.

$$8 + 0 = 8$$

$$0 + 8 = 8$$

So, the boys saw 8 fish in all.

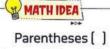
Associative Property of Addition

Bassem collected 7 brown shells, 4 white shells, and 6 gray shells. How many shells did he collect in all?

$$\begin{bmatrix} 7+4 & + & 6 \\ 11 & + & 6 \\ 17 & 17 & = & 17 \end{bmatrix} = \begin{bmatrix} 7 & + & [4+6] \\ 7 & + & 10 \\ 17 & = & 17 \end{bmatrix}$$

So,
$$[7+4]+6=7+[4+6]$$
.

Bassem collected 17 shells in all.



show which numbers to add first.

You can group addends in different ways, and the sum will be the same.

Notes for parents:

 Let your child give you more examples for each property and ask him/her to explain what each property states.



Example 1

Find the missing number, and name the property you used.

c.
$$[1+19]+11=1+[19+---]$$
 d. $90+---=90$

Solution [V]

- a. 64 [commutative property]
- c. 11 (associative property)

- b. 14 (additive identity property)
- d. 0 [additive identity property]

Example 2

Solve each problem, and name the property you used.

a.
$$12 + 28 + 30$$

b.
$$16+9+4$$

c.
$$12 + 28 + 15 + 35$$

Solution [V]



a.
$$12+28+30$$
 Use the associative

$$= [12 + 28] + 30$$
 property to group

easy to add mentally.

b.
$$16+9+4$$

$$= 16 + 4 + 9$$
 (commutative property)

$$= [16+4]+9$$
 [associative property]

$$= 20 + 9 = 29$$

c.
$$12 + 28 + 15 + 35$$

$$= [12 + 28] + [15 + 35]$$
 [associative property]

$$= 40 + 50 = 90$$



Check your understanding

Complete the following.

d.
$$17 + 23 = 23 + 17$$
 is — property.

e.
$$[136 + 13] + 37 = 136 + [13 + 37]$$
 is — property.

f.
$$968 + 0 = 0 + 968 = 968$$
 is — property.

Solve the problems, then name the property or properties illustrated by each problem [commutative, associative or additive identity].

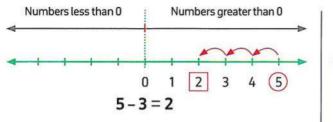
[·] Let your child know that he/she could use more than one property to solve a problem.

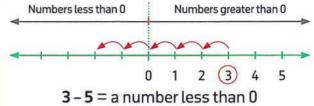
Do the addition properties apply to subtraction?

▶ Is 5 - 3 the same as 3 - 5?

You can use the number line to answer.

You will study the numbers less than 0 later in coming years.





From the above: $5-3 \neq 3-5$ [The differences are NOT the same]

You can not subtract numbers in any order and get the same difference. So, commutative property of addition *does not apply* to subtraction.

Subtraction has no identity.

There is no number you can subtract from any number, or subtract any number from it, the difference is that number.

▶ Is [5-3] - 2 the same as 5 - [3-2]?

$$[5-3]-2=2-2$$

= 0

$$5 - (3 - 2) = 5 - 1$$

= 4

From the above: $(5-3)-2 \neq 5-(3-2)$ [The differences are NOT the same]

You can not group in different ways, and the difference will be the same. So, associative property of addition *does not apply* to subtraction.



Notes for parents:

Ask your child to create a subtraction problem to investigate if the addition properties apply to subtraction.
 Let your child explain using words.

Exercise

on lesson 1

Properties of Addition

REMEMBER

UNDERSTAND

O APPLY

PROBLEM SOLVING

From the school book

1. Choose the correct property.

a.
$$[12+8]+7=12+[8+7]$$

[Additive identity - Commutative - Associative]

b.
$$25 + 75 = 75 + 25$$

[Giza 23] [Additive identity - Commutative - Associative]

c.
$$[45+5]+10=45+[5+10]$$

[Additive identity - Commutative - Associative]

d.
$$13 + 0 = 13$$

[Giza - Abo El-Nomros 23] [Additive identity - Commutative - Associative]

e.
$$26 + 10 + 34 = 26 + 34 + 10$$

[Additive identity - Commutative - Associative]

2. Complete.

[Cairo 23]

b.
$$[61 + 23] + 24 = -----+ [23 + 24]$$

[Giza - Abo El-Nomros 23]

[Cairo - Rod El-Farag 23]

[El-Menia 24]

[El-Menia 23][El-Beheira 24]

Complete to find the sum.

a.
$$92 + 321 + 8 = 92 + 8 + 321$$

b. 1+16+4

= ---- + ---- = ----

d.
$$\square$$
 5+7+8+3

$$=5+8+7+3$$

4. Solve the following problems using the associative property. Remember to solve what is in the parentheses first.

a.	[75 + 25] + 46 = 100 + 46 = 146	75 + [25 + 46] =	[75 + 46] + 25 =
b.	(10 + 4) + 20 + 17 =	10 + [4 + 20] + 17 =	10 + 4 + [20 + 17]
c.	[820 + 78] + 12 + 80	820 + [78 + 12] + 80	[820 + 80] + [78 + 12]

- 5. Find each sum in two different ways. Use parentheses to show which numbers you add first.
 - a. 30 + 70 + 15
 - c. 220 + 88 + 80

- b. 11 + 26 + 34
- **d.** 12 + 28 + 30 + 25
- 6. Use the properties of addition to solve each problem.
 - a. 15 + 18 + 12
 - **b.** 41 + 36 + 19
 - c. 421+9+29
 - **d**. 342 + 4 + 8 + 46
 - e. 730 + 17 + 13 + 20

Challenge

7. Yahia needs to find the sum of 24, 35, 105 and 66. How can he group the addends to make it easier to add? Write the property used in each step.



Multiple Choice Questions

Choose the correct answer.

1. 13 + 0 = 13, is _____ property.

[Assiut - Manfalout 22]

A. assocciative

B. commutative

C. additive identity

- D. none of the above
- 2. 19 + 36 = 36 + 19, is _____ property.

[El-Beheira 23]

A. commutative

B. additive identity

C. associative

- D. otherwise
- 3. (15+19)+20=15+(19+20), is _____ property.

[Alex. 24]

A. additive identity

B. commutative

C. distributive

- D. associative
- The additive identity element is ______

[Ismailia 24][Alex. - El-Montaza 23]

A. 3

B. 2

C. 0

D. 1

5. 25 + 24 = 24 + ____

[Beni Suef 24]

A. 24

B. 25

C. 99

D. 100

6. 352 + (556 + 421) = (352 + ______) + 421

[Alex. 24]

- **A.** 352
- **B.** 556

C. 421

D. 782

7. [222 + 111] + 333 = 222 + [111 + _____]

[Cairo 24]

- A. 888
- B. 111

C. 333

- D. 666
- 8. Which of the following represents the commutative property in addition? [El-Fayoum 22]

A. 635 + 492 = 492 + 635

B. 0 + 847 = 847

C. [18+2]+16=36

- **D.** 1+131=132
- 9. Which equation would be best to include in an explanation of the commutative property of addition? [El-Menia - Matay 22]

A.
$$8 + 0 = 8$$

B.
$$7+8=8+7$$

C.
$$3+18=3+11+7$$

D.
$$5+8=3+10$$

Addition with Regrouping



Learn

Mr. Faried has 129 kids toys. He plans to buy 97 more toys. How many toys will he have altogether?



Estimate. 100 + 100 = 200

(Numbers are rounded to the nearest 100)

Step 1 Step 2 Add ones.

9 + 7 = 16

Add tens.

$$1+2+9=12$$

00 129 Regroup 12 tens as 97 1 hundred 2 tens

Step 3

Add hundreds.

$$1+1=2$$

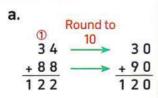
129

Mr. Faried will have 226 toys, and the answer is close to the estimate. So, 226 is reasonable.

Example 1

Round the addends to the nearest given estimation. Find the sum.

Solution [V



The answer is reasonable.

Round to
$$\begin{array}{c|c}
 & & & & & \\
 & & & & & \\
 & 658 & \longrightarrow & 700 \\
 & & & & & \\
\hline
 & 4135 & \longrightarrow & +100 \\
\hline
 & 793 & \longrightarrow & 800
\end{array}$$

The answer is reasonable.

c.

Round to

$$1,000$$
 $+ 3, 7 6 1$
 $+ 3, 9 5 6$

Round to

 $1,000$
 $+ 4,000$
 $+ 4,000$
 $+ 6,000$

The answer is reasonable.

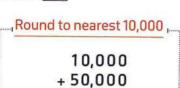
Notes for parents:

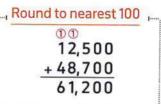
• Ask your child to find the sum of 3,659 and 1,783, then use rounding to estimate and check if the answer is reasonable or not.

Example 2

Estimate using rounding to the nearest Ten Thousand, Thousand, Hundred and Ten to check the reasonableness of the answer. Find the exact answer.

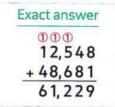








60,000





Note -

The exact answer is more reasonable to estimation using rounding to the nearest $\overline{\ }$ Ten than rounding to the nearest other place values.

✓ Check

check your understanding

- 1. Find the sum with regrouping.
 - a. 3, 5 7 1 + 2, 9 8 9
- b. 7 4, 3 9 8 + 6 8, 6 2 2
- 2. Find the exact sum. Estimate using rounding to check the reasonableness of the answer.
- 3 1 9 Round to 100 + 6 3 +

C.

b.

d.

c.

 Let your child create an addition problem and let him/her solve it to find the exact answer, then use rounding to check the reasonableness of the answer.

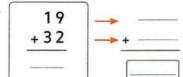
Exercise

on lesson 2

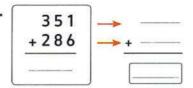
Addition with Regrouping

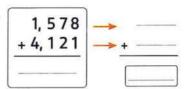
- REMEMBER
- UNDERSTAND
- PROBLEM SOLVING

- From the school book
- 1. Estimate using rounding to the nearest Ten. Find the exact answer.
 - a.

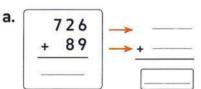


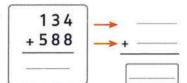
b.

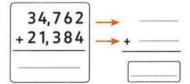




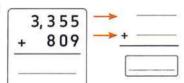
- 2. Estimate using rounding to the nearest Hundred. Find the exact answer.

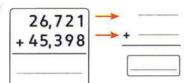


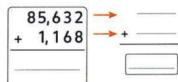




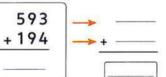
- 3. Estimate using rounding to the nearest Thousand. Find the exact answer.
 - a.







- 4. Round to estimate the sums. Then, solve the problems to find the exact answers.
- Show your work.
 - a.



b. 🛄

d. 💷





5. Find the exact sum. Estimate using rounding as the examples.

▶ Examples: • 5,432 + 1,296 = 6,728

$$5,400 + 1,300 = 6,700$$

•17,686 + 5,342 = 23,028 1111

a. 17 + 69 = ---

		20000	
_	+-	=	

c. 4,584 + 2,428 = —

 +	_	_

- **e.** 25,749 + 175,684 = ---
 - ---+---=---

b. 523 + 387 = ---

d. 69,210 + 26,428 = -

- **f.** 259,111 + 9,999 =
 - ---+--=---

Complete.

a. 227 + 293 =

b. 539 + 62 =

- c. 8,049 + 2,931 =
- **d.** 14,275 + 15,725 =
- **e.** 25,865 + 3,459 = ----
- f. 91,024 + 32,549 =
- g. 26,720 + 45,280 = ---
- **h.** 523,523 + 377,137 = ---

- [Giza 24]
- [Alex. First Montaza 23]
 - [Aswan Noba 23]
 - [Luxor 24]
 - [Cairo 24]
- [El-Beheira Hosh Essa 23]
 - [Giza 23]
 - [Souhag 24]

7. Find the sum. Compare using (>, < or =).

- a. 65 + 17
- 38 + 43
- c. 3,984 + 1,079
- 894 + 4,117
- e. 90,652 + 21,911
 - 37,888 + 84,675
- **b.** 290 + 530
- 732 + 88
- **d.** 5,182 + 957
- 3,777 + 2,350
- f. 54,186 + 11,983
- 25,649 + 40,515

8. Answer the following problems.

- a. If 273 ships passed through the Suez Canal in January and 375 ships crossed in February. Find the total sum of ships in the two months. [El-Menia 23]
- b. A bridge of ants consists of 142 ants, and another bridge consists of 165 ants. How many ants are there in the two bridges together?



[Cairo - 23] [El-Beheira - Damnhour 22]

- c. Mona has 5,235 L.E., her father gave her 2,365 L.E. How much money does Mona have now? [El-Menia 24]
- d. In a week, 7,825 tourists visited Karnak temple, and in the next week, 8,245 tourists visited it. How many tourists visited the temple in the two weeks? [Alex. 24]
- e. Heba bought a mobile for 21,675 L.E. and a laptop for 18,325 L.E. How much money did Heba pay? (Cairo 23)
- f. Ahmed and Omar participated in a project, Ahmed paid 342,650 pounds and Omar paid 245,950 pounds.

Find the total cost of the project. [Alex. - Agamy 23]

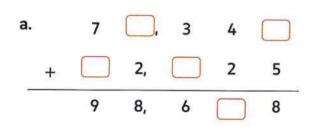
g. If 149,000 visitors visited the Great Pyramid in January and 125,000 visitors visited it in February. What is the total numbers of visitors in the two months? [Alex. - Agamy 24] h. The country has provided a vaccination against the Corona virus. In the first stage, 1,653,465 people were vaccinated and 3,312,447 in the second stage. What is the total number of people vaccinated in both stages?

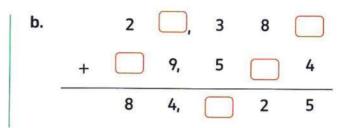


[Giza - Dokki 22]



9. Complete the missing digits.







Multiple Choice Questions

Choose the correct answer.

[Aswan 23]

B. 123,673

D. 123,573

[Giza - Haram 22] [Cairo - Rod El-Farag 23] **4.** The sum of 1,225 + 5,774 = -

A. 6,900

B. 6,999

C. 6,555

D. 6,565

[Cairo - Helwan 24]

5. Which one is the sum of + 2,715 ?

A. 83,053

B. 83,261

7. 3,425 + 4,768 = 193 + -

8. 31,632 + 62,435 = __

B.
$$67 + 940$$

C.
$$67 + 9,400$$

D.
$$67 + 94,000$$

9. Which one is the correct rounding to estimate the answer of 192 + 266?

A.
$$100 + 200 = 300$$

B.
$$200 + 200 = 400$$

C.
$$100 + 300 = 400$$

D.
$$200 + 300 = 500$$

10. Which one is the correct rounding to estimate the sum of 1.564 + 387?

-- 71,147 + 7,765

A.
$$1,500 + 300 = 1,800$$

B.
$$1,500 + 400 = 1,900$$

C.
$$1,600 + 400 = 2,000$$

D.
$$1,600 + 500 = 2,100$$

11. Which has the same sum as 654 + 1,698?

D.
$$754 + 1,898$$

12. 78,912 -

13. Heba bought a laptop for 13,350 pounds and a TV set for 8,750 pounds.

What is the total money did she pay?

- A. 21,000 pounds
- C. 22,100 pounds

- **B.** 21,100 pounds
- D. 23,000 pounds

Subtraction with Regrouping



Learn

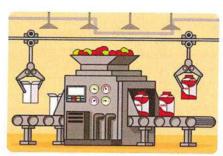
A factory produced 3,675 cartons of juice in a month. In the next month, the factory produced 7,869 cartons of juice.

Find the difference between the number of cartons of juice in the two months.

Estimate. 8,000 - 4,000 = 4,000

[Numbers are rounded to the nearest 1,000]

Use the standard subtraction algorithm.



Step 1

Subtract the ones.

Step 2

Regroup hundreds.

Subtract the tens.

Step 3

Subtract the hundreds.

Step 4

Subtract the thousands.

So, the difference is 4,194 cartons of juice.

The answer is close to the estimate, so 4,194 is reasonable.

Note that:

7, 8 6 9
$$\xrightarrow{\text{Round to}}$$
 8, 0 0 0
- 3, 6 7 5 \longrightarrow - 4, 0 0 0
4, 1 9 4 4, 0 0 0
[It is close to the exact answer]

7, 8 6 9
$$\xrightarrow{\text{Round to}}$$
 7, 9 0 0
- 3, 6 7 5 \longrightarrow - 3, 7 0 0
4, 1 9 4 \longrightarrow 4, 2 0 0

[It is more close to the exact answer]

[It is more close to the exact answer than rounding to Thousand or rounding to Hundred]

Notes for parents:

· The exact answer is more reasonable to estimation using rounding to the nearest 10 than rounding to the nearest other place values.

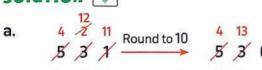
Example 1

Find the difference. Round to the given estimation to check the reasonableness of the answer.

a. 531 - 278 [Round to the nearest Ten]

b. 7,419 - 1,742 (Round to the nearest Hundred)

Solution [V]



[The answer is reasonable]

[The answer is reasonable]

Example 2

Estimate using rounding to the nearest 10,100,1,000 and 10,000 to check the reasonableness of the answer. Find the exact difference. 46,853 - 19,729

Solution [V]



Round to nearest 10 Round to nearest 100 Round to nearest 1,000 Round Roun 46,850 <u> 1 9, 7 3 0</u> 2 7, 1 2 0

Exact difference

The exact difference is more reasonable to estimation using rounding to the nearest 10 than rounding to 100,1,000 or 10,000

check your understanding

Solve the following problems using the standard subtraction algorithm.

Then, round each number to the nearest Ten, Hundred Thousand or Ten Thousand to check the reasonableness of your answers.

Remind your child to look at each exercise carefully and decide how he/she needs to regroup before proceeding.

Exercise

on lesson 3

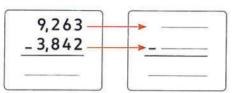
Subtraction with Regrouping

REMEMBER

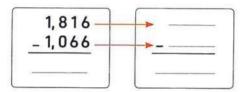
- UNDERSTAND
- O APPLY
- ROBLEM SOLVING

- From the school book
- 1. Use the standard subtraction algorithm to solve the problems. Then, round each number to the nearest Thousand to check the reasonableness of your answer.

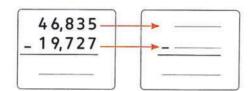
a.



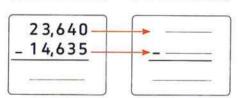
C.



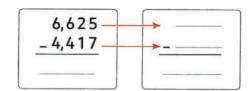
e.



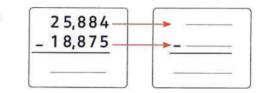
g.



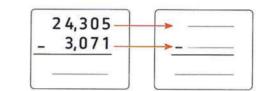
b.



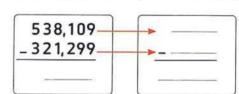
d.



f.



h.



- 2. Use the standard subtraction algorithm to solve the following problems. Then round to the nearest Thousands to check the reasonableness of your answer as the examples.

Examples: •
$$8,246 - 2,873 = 2,373$$

5,000 - 3,000 = 2,000

-83.402 - 58.336 = 25.06683,000 - 58,000 = 25,000

3. Complete.

a. 3,728 – 1,596 = —

[El-Monofia - Al-Sadat 24]

b. 2,617 – 1,716 = –

[El-Beheira 24] [El-Monofia 24]

c. 4,725 – 3,482 =

[Qena 23]

d. 2,615 – 1,309 = ——

[Cairo - Rod El-Farag 23]

e. 8,742 – 2,136 = –

[Souhag 23]

f. 69,263 – 25,185 = ---

[Port Said 24]

g. 862,492 – 657,837 = –

[El-Monofia 24]

h. 284,615 - 196,392 = -

[Kafr El-Sheikh 24]

i. 5,000 – 2,451 = ---

[Cairo 24]

j. 8,000 - 3,999 = -

[Cairo 23]

Find the results, complete using (> , < or =).

- a. 3,250 137
- - 3,250 731
- **b.** 7,431 250
- 9,302 250

- c. 849 598
- 1,000 750
- d. 12,926 + 19,809
- 57,400 24,865

- e. 18,654 367
- 10,000 + 8,000 + 200 + 80 + 7

5. Solve the following story problems.

a. A road of 675 km length. If a train traveled a distance of 239 km from this road.

What is the remaining distance of the road?

[El-Beheira 23] [Alex. - Montaza 23]

b. Hassan has 8,460 pounds. He bought a phone for 3,650 pounds.

Find the money remained with him.

[Alex. 23]

c.	There are 7,258 ants in the colony. 2,147 ants are females and the rest are males				
	How many males are in the colony?	(Souhag 23)			

- d. There are 20,000 ants in the colony. If 1,500 ants went out to find food, how many ants did not leave the colony? [Cairo 24]
- e. Samir and Mohamed participated in a project. Samir paid 342,650 pounds. If the cost of the project is 668,500 pounds, how much is Mohamed paying? [El-Menia 22]



f. If the population of Matrouh Governorate is 517,901 people, and the population of South Sinai Governorate is 112,211, then what is the difference between the population of Matrouh Governorate and the population of South Sinai Governorate?



[El-Gharbia - Qotour 22]

[El-Monofia - Berket El-Sabaa 23]

g. Mohamed has 15,000 L.E. He bought a computer with 7,250 L.E. and a mobile with 4,750 L.E. Find the reminder with him.

(Cairo - El-Salam 23)
The second section is a section of the second section is a section of the second section is a section of the second section is a second section of the second section of the second section is a second section of the section of the second section of the second section of the second section of the secti

h. A trap jaw ant wanted to cross a river that was 3,548 cm across. The ant had already swum 1,672 cm. How much farther does the ant have to go?



i. Two colonies of fire ant were stuck in a flood and made floating rafts to survive. The first colony had approximately 1,267 ants and the second had 3,452 ants. How many more ants were in the second colony?

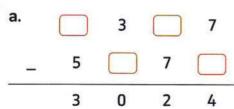


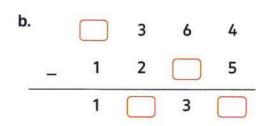
j. 📖 A fire ant colony has 255,000 ants. A Gigantiops destructor ant colony has 6,200 ants. What is the difference between the size of the two colonies?



Challenge

6. Write the missing digits.





Multiple Choice Questions

Choose the correct answer.

1.	557 -	283	=
_			

[El-Monofia 24]

B. 274

C. 427

D. 724

2. Subtract: 613 – 247 = ————

[El-Menia 24] [Cairo 22]

[Cairo - Al-Khalifa 23] [El-Beheira - Hosh Essa 23]

C. 366

B. 434 **D.** 807

[Kafr El-Sheikh 24]

A. 305

B. 405

C. 505

D. 1,505

4. 5,683 – 2,647 = –

[Giza - October Gardens 24]

A. 3,030

B. 3,036

C. 3,044

[Cairo 24]

C. 3,928

A. 3,892

B. 2,892 **D.** 2,928 **6.** 3,328 – 2,164 = —

[Aswan 23] B. 1,614

A. 1,641 C. 1,164

D. 1,146

457,206 7. Find the difference: - 124,680

8. 8,000 – 2,345 = _____

[Cairo 23]

A. 10,345

B. 6,345

C. 5,655

D. 5,565

- **A.** 332,486
- **B.** 332,526
- **C.** 333,486

9. 125,217 + 2,345 —

D. 333,526

125,217 – 2,345

(Giza 23)

A. >

B. <

C. =

- 10. A local bakery sold 1,232 zalabya in one day. If they sold 876 zalabya in the moring, how many were sold during the rest of the day? [Beni Suef 22]
 - A. 356
- **B.** 520

C. 1,588

- **D**. 2,108
- 11. If Ahmed had 100 pounds, and the sum of what he and his friend had was 350 pounds. How much money did his friend have?
 - A. 250
- **B.** 150

C. 100

D. 50

CONCEPT 2

Solving Multistep



▶ Lesson 4

Bar Models, Variables and Story Problems

Learning Objectives:

- · Students will use letters to represent unknown quantities in equations.
- · Students will use bar models to represent and solve story problems.
- · Solve for the variable in an equation.

Lesson 5

Solving Multistep Story Problems with Addition and Subtraction

Learning Objectives:

- Students will solve multistep story problems.
- · Students will explain how they solved multistep story problems.

Fast Fact

Female kangaroos sport a pouch on their belly (made by a fold in the skin) to cradle baby kangaroos, called joeys. If a female weighs 35 kg, and weighs holding her joey 38 kg. What is the weight of her joey?

Lesson

4

Bar Models, Variables and Story Problems

Learn 1

How do you write a number sentence to solve a problem ?

Suppose you have 225 L.E. to spend. How much money will you have left if you bought the soccer socks?

Soccer Ge	ar Sale!	
Soccer socks	90 L.E.	
Goalie gloves	120 L.E.	
Shinguards	225 L.E.	
Shinguards	225 L.E.	



What strategy will you use?

Strategy: Write a Number Sentence using bar models.

[Where: n shows the money left]

Whole

225 L.E.	
90 L.E.	n
Part	Part

1. From the bar model:

$$90 + n = 225$$

2. Subtract to find n

$$n = 225 - 90$$

$$n = 135$$

Answer: You will have 135 L.E. left.



Look Back and Check

Is your answer reasonable? 90 + 135 = 225 Yes, it checks.

Notes for parents:

 Ask your child: Why is subtraction used for this problem? He/she may answer "Subtraction is used because I need to find the part that is left".

How to use a bar model to solve an equation?

You can represent the number sentence:
 3+2=5 by the opposite bar model.

	5		
3	2		

• Study the following bar model and its facts:

whole: A	
part: B	part: 0

A = B + C

Add to find the whole.



Subtract to find a part



C = A - B

Subtract to find a part

Identifying the Main Idea

Identifying the main idea when you read in math can help you use the **problem-solving** strategy, and write a number sentence.

The main idea here is part-part-whole, with the whole unknown.



Nader spent 7 L.E. on Monday and 8 L.E. on Tuesday. How much money did he

n 7 8

spend in all on both days?

• Equation 7 + 8 = n

Add to find the whole.
Part ⊕ Part ⊜ Whole

7 + 8 = n

Sally had 10 L.E.

After she bought a book, she had 4 L.E. left.

What did the book cost?

10 n 4

• Equation n + 4 = 10

Subtract to find a part.

Whole Part Part

10 – 4 = n

The main idea here is part-part-whole, with one part unknown.



Notes for parents:

• If your child has trouble writing number sentences for problems, tell him/her to figure out the main idea in the problem, draw a picture for it, and then decide which operation it calls for.

Example 1

There are 5,526 bees in a hive.

In this hive 3,491 are males and the rest are females.

How many females in this hive?

Solution [



- The whole is: 5,526
- One part is: 3,491 [males]
- The second part is unknown: x [females]

· Bar model:

5,526	
3,491	×

- Equation: 3,491 + X = 5,526
- **Solution**: X = 5,526 3,491 = 2,035 females.

How to write a number sentence (or equation)

- Step 1 Show the main idea.
- Step 2 Decide which operation fits the main idea.
- Step 3 Use a letter to show what you are trying to find.
- Step 4 Solve the number sentence.

Note -

You can write many equations for this problem

$$3,491 + X = 5,526$$

The value of x is the same.

Check your understanding

If the number of visitors of the Pyramids in one month is 183,523 and the number of foreign visitors is 38,191

, find the number of Egyptian visitors.

Bar model

Equation:

Solution: -

· If your child writes only the answer, ask him/her to reread the directions, and write a number sentence that is including a letter stands for the unknown.

Learn 2 Solving equations with variables

- An equation is a number sentence stating that two amounts are equal.
- A variable is a letter in the equation that you should find its value.
- Solving an equation means finding the value of the variable that makes the values of its two sides equal.

Example 2

Solve the equation by using a bar model: 14 - d = 8

Solution [V]



• Solution: d = 14 - 8 = 6

Subtract to find a part.

Whole Part Part

Example 3

Solve the equation by using a bar model: y = 34,500 = 55,200

Solution [



· Bar model:

У		
34,500	55,200	

• Solution : y = 34,500 + 55,200 = 89,700



Add to find the whole. Part (+) Part (=) Whole

Example 4

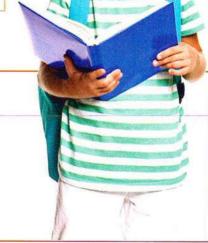
Solve the equation by using a bar model: 74,562 + m = 125,708

Solution [V



125,708	
74,562	m

• Solution: m = 125,708 - 74,562 = 51,146





check your understanding

Solve the following equations by using the bar model.

c.
$$p - 4,252 = 31,726$$

d.
$$13,725 + n = 70,000$$

Notes for parents:

· Ask your child to check his/her answer using fact family.

Exercise

on lesson 4

Bar Models, Variables and Story Problems

REMEMBER

UNDERSTAND

O APPLY

PROBLEM SOLVING

From the school book

1. Find the value of each variable in the following part-part whole tables.

1	K
34,750	19,05

C.

78	8,514
10.10	
а	29,125

121,	725
10,714	У

30	m
41,621	52,321

2. Solving equations with variables. Create a bar model to solve each of the following problems.

Bar model:	
Solution : -	

b. m = 35,462 = 2,741	(Ismailia 23)
------------------------------	---------------

Bar model:

Solution		_	.4:	_1.	c.	C

c.
$$\Box$$
 b $= 53,500 = 75,200$

Bar model:	
Colution .	70

Solution:

d.
$$4,641 + y = 7,548$$
 [El-Monofia 24]

Bar model:

Solution	:	

e. \square 725,625 + c = 935,075

Bar model:

Solution: -

f. \square 13,280 – d = 5,420

Bar model:



g. 5,000 + a = 7,000

Bar model:

Solution: -

Bar model .

bai illouet.	
Solution :	

Solution : -



a. By using the bar model, the value of m = _____

m 7,938 3,153 (Ismailia 24)

b. In the opposite bar model, the value of the unknown x = -

6,2	232
2,232	x

[Alex. 24]

c. In the opposite bar model, the value of the unknown C = _____

7,0	620
С	4,310

[Giza - Awseem 23]

d. In the opposite bar model, the value of k = _____

4	,152
k	1,045

[Alex. - Al Agamy 23]

e. In the equation 125 + A = 300, then A = ____

[Souhag 22]

f. The value of the variable in the equation: b = 1,250 = 3,000 is

[El-Monofia 24] [El-Beheira 24]

g. If 5,000 - M = 3,000, then the value of M = -

[El-Menia 24]

h. If K = 490 = 4,010, then K = -----

[Cairo 24]

i. If A + 710 = 920, then the value of A = _____

[El-Menia 24] [El-Monofia 24]

j. If 835 - A = 751, then the value of A = ----

[El-Fayoum 22]

k. 4,625,269 – = 1,000,000

[Port Said 22]

Story Problems

- 4. By using a bar model, write the equation, then find the solution.
 - ${\bf a.}$ The number of boys and girls in a school is 2,340 , the number of boys in this school is 1,234 What is the number of girls in this school? Bar model

Equation:

Solution:

b. Africa and the rest live in other parts of the world. How many species do not live in Africa?

Equation:

Solution:

c. A There are 5,328 ants in the colony. In the colony, 2,164 ants are females and the rest are males. How many male ants are in the colony?

Equation:

Solution :

Bar model

Bar model

[Aswan - Noba 23]

d. In colony A, there are 1,200 ants. Some ants are out foraging for food and supplies, and 700 ants are taking out the colony's trash. How many ants are foraging for food and supplies?

Bar model

Equation:	
Equation.	
CONTRACT CORP.	

Solution:

Challenge

5. Solve the equation by using a bar model.

1+1=8

Solution :



Multiple Choice Questions

Choose the correct answer.

 From the opposite bar model, the value of unknown m = -

600 350

- A. 100
- **B.** 150
- **C.** 200
- **D.** 250
- [Cairo 24]

(Aswan 23)

2. In the opposite bar

model, the value of x = ----

54,900 50,000 X

- A. 9,000
- B. 4,900
- C. 40,000
- D. 49

[Alex. 24]

3. In the equation: b = 4,358 = 3,422,

the value of b = _____ (Souhag 23)

- A. 7,780
- **B.** 6,653
- **C.** 5,662
- **D.** 5,556

4. If 614 - x = 600, then x = 600

[Cairo 23]

- A. 11
- C. 16
- D. 14

B. 12

5. The value of x in the equation:

725,625 + x = 935,075is

6. If 111 + x = 481, then the value of x = -

[Kafr EL-Sheikh 24]

- **A.** 292,450
- B. 290,450
- C. 209,540
- **D.** 209,450

- **A.** 260
- **B.** 370
- C. 471
- D. 592

7. If 834 - X = 622, then X = -

[Kafr El-Sheikh 24]

- A. 300
- **B.** 212
- C. 412
- D. 612

8. If 23,080 - B = 21,980, then B = -

[Alex. 24]

- A. 2,900
- **B.** 2,000
- C. 2,980
- **D**. 1,100

9. If 45,300 – A = 42,700, then A =

[Alex. 24]

- **A.** 3,400
- **B.** 3,800
- **C**. 2,600
- **D.** 2,400

10. The value of the variable in the equation:

b + 1,000 = 4,000 is —

[Alex. 24]

- **A.** 1,000
- **B.** 2,000
- **C.** 3,000
- **D**. 3

Solving Multistep Story Problems with **Addition and Subtraction**



Learn

Some story problems have a hidden question.

To solve the problem, you must first find and answer the hidden question.

Example

Amgd is reading a book. He reads 96 pages in the first week and 129 pages in the second week. The book has 290 pages.

How many pages are left to read?

Solution [V



- Hidden question: How many pages did Amgd read in the two weeks? Amgd read = 96 + 129 = 225 pages
- Use the new information to solve the problem and find the left pages. The left pages = 290 - 225 = 65 pages

Another Way

Hidden question:

How many pages are left in the first

290 - 96 = 194 pages

· Final answer:

How many pages are left to read? 194 - 129 = 65 pages

Third Way

Bar model

290	
96 + 129	n

Equation:

$$96 + 129 + n = 290$$

 $225 + n = 290$

· Answer:

n = 290 - 225 = 65 pages



Check

your understanding

A library sold 25,325 books in the first week, 19,712 books in the second week and 28,119 in the third week. If the library had 473,590 book. How many books are left?

Notes for parents:

· Give your child a multistep story problem and ask your child to use the solving steps to help solving the problem.

Exercise 10 on lesson 5

Solving Multistep Story Problems with Addition and Subtraction

a.	Mohamed bought a laptop for 6,250 L.E. and a mobile for 3,750 L.E., if he had 16,000 L.E.
	, how much money are left with him? (El Monofia 2
b.	A book contains 900 pages. If you read 423 pages in first week and 346 pages in secon week. How many pages are left? [El-Monofia 2]
c.	Sara, Bassem and Mina are collecting stamps. Sara collected 743 stamps, Bassem collected 198 stamps and Mina collected 357 stamps. How many more stamps did Sar collect than Bassem and Mina have combined?
d.	A factory sold 6,580 toys in the first month, 7,214 toys in the second month, and 5,975 toys the third month. The expect number of sold toys is 25,000 toys by the end of the fourth month. How many toys are needed to be sold in the fourth month to reach this count?
e.	The ant colony website hopes that a new colony A with up to 173,500 will form. If a colony of 27,385 ants and a colony of 52,890 ants join the new colony, how many more ants can join?
	The Great Pyramid had 59,000 visitors in January, 27,525 visitors in February, and 32,975 visitors in March. They expect to have 150,000 visitors by the end of April. How many visitors need to show up in April to reach this count?

			Statement .					
	New Valley has a population of 256,088. If Matrouh has a population of 429,999 and South Sinai has a population of 108,951, how many more people do Matrouh and South							
	Sinai have combined than New Valley?			(Aswan 2				
h	Mariam saw on the website that several smaller		——	ro lolulu a				
	together to form a larger colony. On Monday, 1,725 an							
	Then, another 6,075 ants joined. How many ants we							
	Omar checked the website on Friday and learned th							
	the colony. How many ants had joined the colony sir		90.0 ± 32.0 ± 6.0					
6								
a ₁	Ahmed had a pie with 340 calories for breakfast. Tpple, and a chicken sandwich for lunch. The milk had 5 calories, and the chicken sandwich had 255 calories. 000 calories per day, how many more calories can A	d 190 calories, thes. If the average	ne apple h e adult car	ad				
Ch	allenge							
The	opposite table represents the		Green	Red				
num	ber of shirts in stock of a store.	Small	15,436	18,421				
Ansı	wer the following problems.	Medium	33,142	43,218				
a. H	low many more red shirts than green shirts?	Large	5,347	14,132				
-								
_								
o. H	ow many more small shirts than large shirts?							

Unit Two Assessment



Choose the correct answer.

1. 38 + 76 = 76 + 38 proporty.

[Souhag 24]

- A. associative
- B. commutative
- C. additive identity
- D. distributive

2. 5,588 + 0 = 5,588 is using — proporty.

[Alex. - Agamy 24]

- A. additive identity B. commutative
- C. distributive
- D. associative

- - A. 38

B. 77

C. 115

D. 150

4. In the corresponding bar model:

The value of the unknown C =

[El-Monofia 24]

- A. 700
- **B.** 300
- C. 520
- **D.** 800

500 C 200

5. If Y + 300 = 321, then Y = ----

[Cairo 24]

- A. 321
- **B.** 300
- **C.** 31

D. 21

6. If x = 180 = 256, then x = ---

[El-Monofia - Quesna 23]

A. 76

- **B.** 436
- C. 176
- D. 406
- 7. Joudy found that 38,828 + 52,309 = 91,137. Which estimate could she use to check if her answer is reasonable?
 - **A.** 30,000 + 50,000 = 80,000
- **B.** 30,000 + 60,000 = 90,000

- **C.** 40,000 + 50,000 = 90,000
- **D.** 40,000 + 60,000 = 100,000

Complete the following :

1. 91,024 + 32,549 = _____

[Cairo - Heliopolis 23]

2. The additive identity is —

[El-Beheira - Hosh Essa 23]

- 3. Two ants colonies have 33,585 ants. If colony A has 17,990 ants, then the number of ants in colony B = _____ ants.
- 1.000 5. In the bar model , the value of A equals —

[Luxor 24]

6.	If n -	34 =	29	.then	n	=	

8. A local bakery sold 7,120 zalabya in one day. If they sold 1,269 zalabya in the morning and 2,658 zalabya in the afternoon, then the number of zalabya sold during the rest of the day is _____ zalabya.

3. Choose the correct answer:

1. 13 + 7 = 7 + 13, represents — property.

[El-Monofia - Sadat City 23]

- A. commutative
- B. associative
- C. additive identity
- 2. In the opposite bar model, the value of w = -

[Aswan - Noba 23]

- A. 2,957
- B. 9,449
- C. 3,043
- **D.** 3,000

6,203 3,246

3. 613 – 247 = –

[Cairo - Math's Inspection 23]

- A. 567
- **B.** 343
- C. 366
- **D.** 807

4. The additive identity of addition is —

[Giza 23]

A. 0

B. 1

C. 10

D. 2

- **5.** 112 + 369 = 369 + _____
 - A. zero
- **B.** 369
- C. 112
- **D.** 481
- **6.** Rana had 251,750 pounds, she bought a mobile for 5,555 pounds and a car for 125,780 pounds, then the left money with Rana is ______ pounds.
 - A. 131,335
- B. 120,415
- C. 125,970
- **D.** 246,195

- **7.** 3,508 + 3,692 = _____
 - **A.** 61,190
- **B.** 184
- C. 7,190
- **D**. 7,200

4. Answer the following.

1. Find a. 3 2 1 8 4

b. 734 – 245 = _____

+4 5 5 9 3 (Cairo 24)

- 2. Nader made 18 pieces of falafel. He ate 6 pieces and his brother ate 5 pieces.

 Represent these data using bar model to show how many pieces are left?
- 3. Mohamed bought a laptop for 7,250 L.E. and a mobile for 4,750 L.E. If he had 15,000 L.E., how much money are left with him?

[El-Beheira 24]

4. A bridge of ants consists of 692 ants and another bridge consists of 165 ants, how many ants are there in two bridges? [Beni Suef 24] [Port Said 24] [Cairo - Math's Inspection 23]

THEME ONE

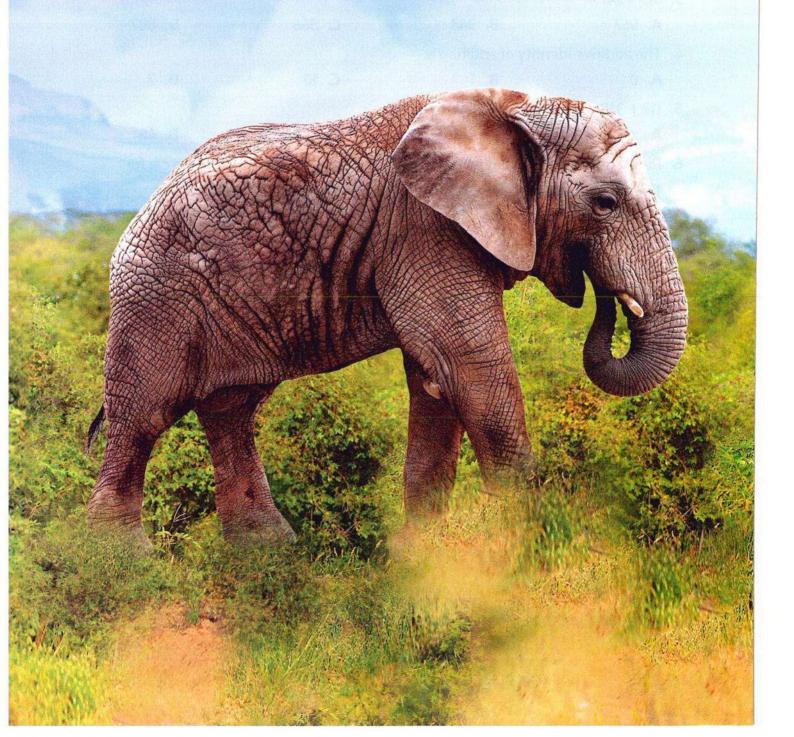
Number Sense and Operations



Concepts of Measurement

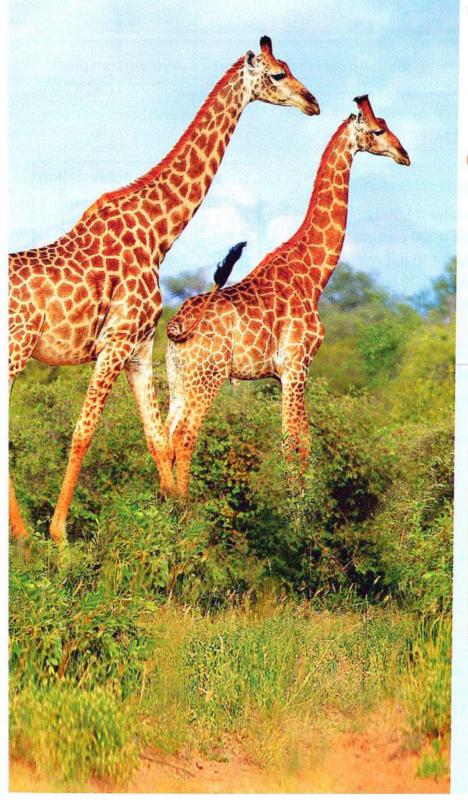
► Concept 1 : Metric Measurement

► Concept 2 : Measuring Time



CONCEPT

Metric Measurement



▶ Lesson 1

Measuring Length

Learning Objectives:

- Students will explain the relationship between metric units of length.
- Students will convert between metric units of length.

▶ Lesson 2

Measuring Mass

Learning Objectives:

- Students will explain the relationship between metric units of mass.
- Students will convert between metric units of mass.

Lesson 3

Units of Capacity

Learning Objectives:

- Students will explain the relationship between metric units of capacity.
- Students will convert between metric units of capacity.

Fast Fact

- ▶ Giraffes' long necks allow them to reach the leaves on treetops. A giraffe is the tallest land mammal. Some giraffes can be as tall as 6 meters!
- ► The elephant is the largest land mammal. Elephants can weigh as much as [7,250 kilograms]. They drink 110 to 180 liters of water a day!
 A baby elephant is called a calf.

1

Measuring Length



Meter, decimeter, centimeter and millimeter are four units of measuring lengths.



A corn kernel is about 10 millimeters long.



An ear of corn is about 20 centimeters long or 2 decimeters long.



A young corn plant is about 1 meter tall.

Relating Units of Length

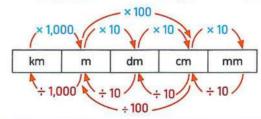
Table of Measures

1 kilometer = 1,000 meters
1 meter = 100 centimeters
1 meter = 10 decimeters
1 decimeter = 10 centimeters
1 centimeter = 10 millimeters

	Name	Abbreviation
112	Kilometer	km
nits	Meter	m
hu	Decimeter	dm
engh units	Centimeter	cm
	Millimeter	mm

Converting Metric Length Units

- When you change larger units to smaller units multiply.
- When you change smaller units to larger units divide.



Example 1

Fill in blanks.

Notes for parents:

 Let your child understand that when converting from larger length unit to smaller length unit he/she can multiply by 10, 100, 1,000, ...

Solution [7

- a. 8 m = 800 cm
- $c. 130 \, \text{mm} = 13 \, \text{cm}$
- **e.** 5 km = 5,000 m=500,000 cm

- **b.** $700 \, \text{cm} = 7 \, \text{m}$
- **d.** 15,000 m = 15 km
- f. 8 km = 8,000 m $= 80.000 \, dm$



Example 2

Complete each of the following.

- a. 7 m, 56 cm = ---- cm
- c. 12 km, 12 m = ----- m

- **b.** 9 cm, 5 mm = ----- mm
- **d.** 4 m, 16 dm = ----- dm

Solution [V]

- a. 7 m, 56 cm = 700 cm + 56 cm = 756 cm
- c. 12 km, 12 m = 12,000 m + 12 m = 12,012 m
- **b.** 9 cm, 5 mm = 90 mm + 5 mm = 95 mm
- **d.** 4 m, 16 dm = 40 dm + 16 dm = 56 dm

Example 3

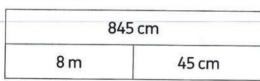
Convert the lengths into the units on the bar models.

a.

	845 cı	m
n	n	cm

29,60)3 m
km	m





[Think: 845 = 800 + 45]

b.

29,8	603 m
29 km	603 m

[Think : 29,603 = 29,000 + 603]

check your understanding

Complete each of the following.

- **a.** 600 mm = ____ cm
- **b.** 600 cm = _____ m
- **c.** 500 dm = _____ m
- **d.** 3 km + 300 m = ----- m
- **e.** $563 \, \text{cm} = -$ - m, -

[·] Let your child explain the relationships between the metric length units "km, m, dm, cm, mm".

Exercise 11 on lesson 1

Measuring Length

on less	on I					
• REMEMBER	UNDERSTAND	O APPLY	& PROBLEM	SOLVING		From the school book
1. III Circl	e the best uni	t to meas	ure each le	ngth.		
1. Heigh	nt of a student					
	Kilometer		Meter	Centimet	ter	Millimeter
2. Dista	nce between l	home and	school			
	Kilometer	1	Meter	Centimet	ter	Millimeter
3. Leng	th of the Nile F	River				
	Kilometer		Meter	Centimet	ter	Millimeter
4. Leng	th of an ant					
	Kilometer	1	Meter	Centimet	ter	Millimeter
5. Dista	nce from Cairo					
	Kilometer		Meter	Centimet	ter	Millimeter
2. Comple	te.					
a. 🕮11	km =	— m		b. 12 km =	m	[Port Said 24]
c. 16 cm	ງ =	mm				[Cairo – El-Nozha 23]
d. 12 dn	n =	- cm	(Giza 23)	e. <u>111</u> 1 m =	cm	1
f. 5 m =	:cr	n (Giza -	- Haram 22)	g. 7 m =	— cm	[Cairo 23]
h. ——	kilomet	ters = 40,	000 meters			[Aswan 23]
i. 7,000	meters =	ki	lometers			(Souhag 23)
j. 9,000	mm =	cm		[Alex El-Mont	tazah 23) (Alex. – Borg El-Arab 22]
k . 70 cn	n =	-dm				[Cairo – El-Nozha 23]
l. 5 cm	+ 3 mm =	n	nm			[El-Menia 24]
m. 8 me	eters, 45 cm =		— cm			[Port Said 24] [Cairo 24]
n . 3 m,	48 cm =	cm				[Port Said 24]
o . 3,924	meters =	k	lometers , 9	924 meters		[Cairo 24]
p. 9,250	meters =	k	m +	m		[Alex. 23]
q. 27 km	n,55 m =	m				[El-Dakahlia 22]
r. 423 cr	m =	-m,	cm			[Alex Al-Agamy 23]
s. 897 n	nm =	— cm ,—	m	m		[Ismailia 23]

[Giza 23]

t. 5 km - 3,000 m = ----- m

. Find t	he missing numbers.						
а. 🕮	230 cm	b. 🕮	478	cm	c.	85	cm
	— m — cm		—_m	cm	Į	dm	cm
d.	m [Ca	iro 23] e. 🕮		– cm	f.		- mm
ă	3 km 40 m		5 m	91 cm		7 cm	5 mm
	r each of the following. the following lengths in	an ascending 8 m ,8,000 c		8 mm		[Cairo – H	eliopolis 23
in kil	nin covers 3 km in one mi lometers and in meters ? /hen scientists studied to ow many centimeters we	? he anthill, the	y found th	at it was 8			nutes
ca	ne colony had to move to rry loads of soil 1 kilomet eek, How many kilomete	ter to the surfa	ace. If one	ant carried	10 lo	ads of soil	in a
ma	any centimeters ?	m		m			sm.
100,0	arpenter ants can be up t 100 ants. If the ants lined many meters long woul	to 3 centimete I up end to end	rs long. A d and each	mature col ant is 1 cer	ony c	an have u	
	sing the information fron		The state of the s	ants be ?			

G

Multiple Choice Questions

Choose the correct answer.

	The best unit to measure	the length of	2. 4 km =	-m
0	an ant is ———	[Alex. 24]	9	[El-Monofia - Sadat City 23]
	A. meter	B. liter	A. 40	B . 400
	C. mm	D. km	C. 4,000	D. 4
3.	10 meters = c	entimeters (Cairo 23)	4. 5,000 mm =	m
	A . 10	B. 100	A. 5	B. 50
	C. 1,000	D. 1	C . 500	D . 50,000
5.	62 dm = cm	[Alex. 24]	6. 3,000 cm =	— m (Ismailia 24
0	A. 62	B . 620	A. 100	B. 30
	C. 6,200	D . 62,000	C. 3	D. 300
7.	423 cm = [Giza – Awssem 23] [El-Mo	onofia – Quesna 22)	8. 4 m , 16 dm = -	dm
	A. 23 m , 4 cm	B. 42 m , 3 cm	A. 416	B. 4,160
	C. 4 m , 23 cm	D. 3 m , 42 cm	C. 56	D. 4,016
9.	3 km + 300 m =	m [Souhag 24]	10. 5 km, 5 m = —	m [Giza 23]
0	A. 3,300	B. 30,300	A. 55	B. 5,050
	C. 300,003	D. 303	C. 5,005	D. 5,500
11.	6 m , 50 cm =	- cm		[Giza – Abo El-Nomros 23]
0	A. 605	B . 650	C. 560	D. 6,500

12. Which sentence best explains the relationship between a meter and a kilometer?

[Alexandria - West 22]

- $\boldsymbol{\mathsf{A.}}\ \mathsf{A}\ \mathsf{kilometer}$ is equal to 100 meters.
- B. A kilometer is equal to 1,000 meters.
- C. A meter is equal to 1,000 kilometers.
- D. A meter is equal to 100 kilometers.
- 13. Using the relationship between units of length, choose the correct answer to complete the following table:
 [Cairo – Heliopolis 22]

kilometer	meter	centimeter
60	60,000	?

- A. 600
- **B**. 6,000

- C. 60,000
- **D.** 6,000,000

2

Measuring Mass

Learn

Matter is what all objects are made of. Mass is the amount of matter in an object. Metric units of mass are

the gram (g), the kilogram (kg) and the ton.



The mass of a small paperclip is about 1 g

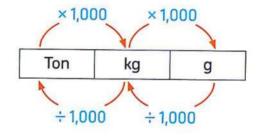


The mass of a baseball bat is about 1 kg



The mass of a car is about 1 ton

Converting Metric Mass Units



1Ton = 1,000 kilogram

1 kilogram = 1,000 grams

1 Ton = 1,000,000 grams

Note

Mass and weight are different.

- Mass stays the same no matter where you are.
- Weight changes from a place to another, for example the weight of any object on the Earth is different from its weight on the moon.

Notes for parents:

 \bullet Ask your child to find something at home of mass 20 g , and another something of mass 1 kg.



Example 1

Complete each of the following.

a. 9 kilograms = ____ grams

c. 7 tons = _____ kilograms

e. 18 kg , 81 g = ______ g

g. — kg, — g = 8,115 g

h. — tons, — kg = 5,005 kg

- **b.** 32,000 grams = _____ kilograms
- **d.** 4 kg, 63 g = g
- **f.** 3 tons , 315 kg = _____

Solution [V]



a. 9 kilograms = 9,000 grams

c. 7 tons = 7,000 kilograms.

e. 18 kg, 81 g = 18,000 g + 81 g = 18,081 g

g. 8 kg, 115 g = 8,115 g

b. $32,000 \, \text{grams} = 32 \, \text{kilograms}$

d. 4 kg, 63 g = 4,000 g + 63 g = 4,063 g

f. 3 tons, 315 kg = 3,000 kg + 315 kg = 3,315 kg

h. 5 tons, 5 kg = 5,005 kg

Example 2

Convert the masses into the units on the bar models.

a

1,560 g	
 kg	g

C.

5,555 kg	
tons —	— kg

b.

27,02	.7 g
kg	—— д

d.

E	— kg
2 tons	2 kg

Solution [V]



а.	1,5	60 g	
	1 kg	560 g	

[Think: 1,560 = 1,000 + 560]

C.

5,55	55 kg
5 tons	555 kg

[Think : 5,555 = 5,000 + 555]

27,027 g 27 kg 27 g

[Think: 27,027 = 27,000 + 27]

d.

2,002	2 kg
2 tons	2 kg

[Think : 2,002 = 2,000 + 2]

Notes for parents:

· Ask your child to explain the relation between the metric mass ton and kg.

Example 3

An oat bag of mass 250 g, Dalia bought 6 bags, what is the total mass of bags in kilograms and grams?

Solution [V]



The total mass = [250 + 250] + [250 + 250] + [250 + 250]= (500 + 500) + 500= (1,000) + 500 = 1 kg, 500 g1kg



Check your understanding

Complete each of the following.

c.
$$5,000 g =$$
 kg

d.
$$4,653 g =$$
 kg, _____g

f.
$$9 \text{ kg}$$
, $314 \text{ g} =$

g.
$$7 \text{ tons}, 77 \text{ kg} =$$
 kg

h.
$$8,436 \text{ kg} = ----- \text{kg}$$

[·] Let your child explain the relationship between the metric mass units "kg, g".

Exercise

on lesson 2

Measuring Mass

• REMEMBER

• UNDERSTAND APPLY

ROBLEM SOLVING

III From the school book

1. Complete. Tell whether you multiply or divide.

c.
$$4$$
 8 kg = $-$ g

[Cairo 23]

(Ismaillia 23)

[Giza 24] [El-Menia 23]

[El-Menia 24]

g.
$$\square$$
 kg = 5,000 g

(Souhag 23)

j.
$$6 \text{ kg}$$
, $454 \text{ g} = ----\text{g}$

[Cairo 24]

k.
$$6,450 \text{ kg} = ------ \text{kg}$$

[Cairo 23]

m.
$$35 \, \text{kg}$$
, $86 \, \text{g} = ------$

m. 35 kg, 86 g = _____ g [Cairo 24] [Cairo – Al–Khalifa and Mokattam 23] [El–Kalyoubia 22]

n.
$$4,535 g = -------kg$$
, $-----g$

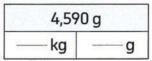
o.
$$14,085 g = ------- kg, 85 g$$

[Alex. 24]

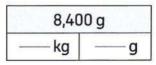
p.
$$7,324 \text{ kg} = ----- \text{ kg}$$

2. Find each missing number.





b. 📖



c. 🕮

Silvery and	— g
7 kg	414 g

d.

	– kg
2 ton	30 kg

3.						
	a. 95 kg		950 g	b. 3 kg	30,0	00 g
	c. 400 g		400 kg	d. 2 ton	2,00	0 kg
	e. 6 kg ,6 g		660 g	f. 2 kg,530 g	24,0	00 g
4. 1	What is the orde			s from least to greate ons ,980 kg ,68,00		2
1	A colony of bla			veigh 3,493 grams. I grams.		, n
F -	Rewrite that weig			veigh 14 kilograms ar	nd 89 grams.	
- - - • U	Rewrite that weig	ght in gram	ns.		nd 89 grams. Mass of Sp	orts Balls
. U	Rewrite that weig	ght in gram	ns.			orts Balls
- - • U	Rewrite that weigns se the picture. What is the ord	ght in gram	ns.			orts Balls Bowling ball 6 kilograms
- - • U	Rewrite that weigns se the picture. What is the ord	ght in gram	ns.		Mass of Sp Basketball	Bowling ball
U a	Rewrite that weigns se the picture. What is the ord	der of the s	ports balls fro	m greatest	Mass of Sp Basketball 616 grams Table tennis ball	Bowling ball 6 kilograms Tennis ball
F -	Se the picture. What is the orders to least to	der of the s mass ?	ports balls fro	m greatest	Mass of Sp Basketball 616 grams Table tennis ball	Bowling ball 6 kilograms Tennis ball

Multiple Choice Questions

Choose the correct answer.

1.	is a me	is a measuring unit of mass. [Giza 23] [El-Menia 24]			2 kg =	— gm	[Alex El-Montaza 23]
	A.km	B. Liter			A . 20,000		B . 2,000
	C. Hour	D. kg			C. 200		D. 20
3.	10 kilograms =	grams	i	4.	15 kg =	gm	
		(Cairo - El-	-Nozha 23]	9			[Cairo – El-Nozha 23]
	A. 10	B. 100			A. 150		B. 1,500
	C. 1,000	D . 10,000			C . 15,000		D. 15
5.	5 tons =	– kg		6.	5,000 grams =	-	— kilograms (Aswan 23) (Giza 24)
	A. 5	B . 50			A. 50		B. 500
	C. 500	D. 5,000			C. 5		D. 1,000
7.	12,000 gm =	kg	[Alex. 24]	8.	12,000 kg =		tons
0	A.120	B . 1,200		0	A. 12		B. 120
	C . 12,000	D . 12			C . 1,200		D. 12,000
9.	9 kg,600 g =		(Luxor 24)	10.	5 kg and 861 g	m =	gm [Cairo 23]
0	A. 96	B . 906		0	A. 5,861		B. 58,160
	C . 9,600	D. 15			C . 5,000,861		D. 5,861,000
11.	5 kilograms, 904	grams =	grams	12.	8,600 g	80	6 kg
0			[Cairo 24]	0	A. >		
	A . 5,904	B . 5,094	-5.		B. <		
	C. 4,390	D. 3,490			c. =		

- 13. Which of the following is the greatest mass?
- **A**. 900 g
- **B**. 20,000 g
- **C.** 70 kg
- **D.** 16 kg

Units of Capacity

Learn

Capacity is the amount of liquid a container can hold.

• A Milliliter (mL) and a liter (L) are metric units that measure capacity.

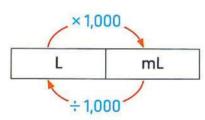


A milliliter is about 20 drops from an eyedropper.



The water bottle holds 1 liter (L) of water.

Converting Metric Capacity Units



1 Liter = 1,000 milliliters

Example 1

Find each missing number.

- a. 8 Liters = _____ milliliters.
- c. 47,665 mL ____ mL
- - **d.** 13 L , 13 mL = _____mL

Solution [V]

- a. 8 Liters = 8,000 milliliters
- c. 47,665 mL 47 L 665 mL
- **b.** 56,000 mL = 56 L
- d. 13 L , 13 mL= 13,000 mL + 13 mL = 13,013 mL

Notes for parents:

Ask your child to bring 2 containers might hold about 1 liter at home.

Example 2

Calculate.

- a. 4L+3,778 mL = ____
- c. 5L-2,570 mL = _____L, ____mL
- **d.** 24L, 800 mL 19L, 510 mL =



Solution [V]

- a. 3,778 mL = 3 L,778 mL 4L+3L,778 mL=7L,778 mL
- **b.** 2L, 340mL + 900mL = 2L + [340 + 900] mL = 2 L + 1,240 mL = 2 L + [1,000 + 240] mL $=3L,240 \, mL$
- c. $5L = 5 \times 1,000 = 5,000 \text{ mL}$ 5,000 mL - 2,570 mL = [5,000 - 2,570] mL $= 2,430 \, \text{mL} = (2,000 + 430) \, \text{mL} = 2 \, \text{L},430 \, \text{mL}$
- d. 24 L, 800 mL -19L, 510 mL=5L , 290 mL

Example 3

A truck consumed 1L,560 mL of gas in the first hour and 1L,840 mL in the second hour. Write the amount of gas consumed by the truck in liters and milliliters in the two hours.

Solution [V]



1L, 560 mL

+1L,840 mL

2L, 1,400 mL

=2L+1L,400 mL

 $= 3L,400 \, mL$

Another Solution:

1L,560 mL = 1,000 mL + 560 mL = 1,560 mL

1L, 840 mL = 1,000 mL + 840 mL = 1,840 mL

The amount = 1,560 mL + 1,840 mL = 3,400 mL

 $=3L,400 \, mL$

Notes for parents:

Let your child explain the relation between the metric capacity units "L, mL".

Enrich your knowledge

• Changing units in the metric system is like moving from one place-value position to another.

	/×	10 ×	10 ×	10	× 10	× 10 ×	10
	kilo- thousands	hecto- hundreds	deca- tens	base - ones	deci – 1 10	centi – 1/100	milli – 1 1,000
Units of length	Kilometer	Hectometer	Decameter	Meter	Decimeter	Centimeter	Millimeter
	km	hm	dam	m	dm	cm	mm
Units of mass	Kilogram	Hectogram	Decagram	Gram	Decigram	centigram	Milligram
	kg	hg	dag	g	dg	cg	mg
Units of capacity	Kiloliter	Hectoliter	Decaliter	Liter	Deciliter	centiliter	Milliliter
	kL	hL	daL	L	dL	cL	mL
	1	10	÷10 +	10	÷10	÷10	÷10

Check your understanding

1. Complete each of the following.

2. Complete.



Exercise

on lesson 3

Units of Capacity

REMEMBER

UNDERSTAND

PROBLEM SOLVING

From the school book

1. Complete.

a. The capacity of a juice can is 2 liters and 500 mL, then its capacity in milliliters

[El-Monofia 24]

[Aswan 23]

[Alex. 24]

n.
$$5,700 \text{ mL} = ------ \text{L}, ----- \text{mL}$$

f.
$$2,000 \text{ mL} =$$
 [Giza 24]

[Beni Suef 24] [Port Said 24]

k.
$$8L,500 \, \text{mL} = ---- \, \text{mL}$$

$$m. 84L,84mL = ----mL$$

$$q. - mL = 61 L, 254 mL$$

$$u. - mL = 7L,400 \, mL$$

2. Find each missing number.



a. 📖 6,360 mL

—_L	- mL
-----	------

c. 💷

-	— mL
8 L	910 mL

[Alex. - El-Montaza 23]

d. mL 2L 250 mL

[El-Beheira - Hosh Essa 23]

3. Fill in blanks.

[Giza 23]

e. 10 L + 1,495 mL = _____ L,____ mL

[Cairo - El-Salam 23]

- f. $1L,500 \, mL + 3L,200 \, mL = ---- \, mL$
- g. 23 L, 244 mL + 2 L, 50 mL = ____ mL
- h. 13 L, 200 mL 3 L, 100 mL = ____ mL
- i. 4L,540 mL 4L,95 mL = ____ mL
- j. 4L, 375 mL + 5L, 625 mL =_____L



- List 6 L, 4,000 mL, 13,000 mL, 5 L from least to greatest.
- 5. Answer each of the following.
 - a. Mona drank 4 liters of water. How many milliliters did she drink?
 - b. A car is filled with 45 liters of petrol. How many milliliters would that be?
 - **c.** A family drank 1 liter, 500 milliliters of orange juice at breakfast. If there were 3 liters of orange juice before breakfast, how much orange juice is left?
 - **d.** Doha's fish tank contains 5 liters, 245 milliliters of water. If the tank can hold 10 liters of water, how much more water does she need to fill the tank?
 - e. A car was filled with 20 liters, 500 milliliters of petrol. At the end of the day, there were 15 liters, 250 milliliters left in the tank. How much petrol was used?

Multiple Choice Questions

Choose the correct answer.

A. meter

 The best unit to measure the 	ne capacity of
a bottle of oil is	[Alox 2/1]

B. liter

C. mm D. km

- 2. 3 liters = milliliters [Giza 23]
 - **A.**3 **B.** 30
 - C. 300 **D.** 3,000

[Kafr El-Sheikh 24]

- A. 23,000 B. 2,300
- C. 230 **D.** 32,000

4. 13 L,30 mL = ---- mL

[Port Said 24] [Alex. - Agamy 23] [El-Sharkia 22]

- A. 43
- **B.** 3,013
- **C.** 1,330
- **D.** 13,030

- 5. 5 liters, 500 mL = ____ mL [Cairo 23]
 - A. 5,500
- **B.** 5,050

D. 15,050

C. 550

- 6. 10 Land 6 mL = ____ mL [El-Monofia 24]
 - A. 16
 - **B.** 106
 - C. 1,006
- **D**. 10,006

- 7. 2L + 55 mL = --mL[Alex. 24]
 - A. 255
- B. 2,550
- C. 2.055

- **D.** 200,055
- 8. 6L + 4,000 mL = --L
 - A. 10
- B. 46
- C. 64
- D. 640

- 9. 7 L,900 mL = 4 L,400 mL = _____ L,__ -mL
 - **A.** 3,400
- **B.** 2,500
- C. 2,400
- **D.** 3,500

- **10.** 29,907 mL = L, mL
 - A. 29,97
- **B.** 29,970
- C. 2,907
- D. 29,907

[Cairo - El-Salam 23]

- 11. Emy drunk 3 liters, then she drunk milliliters.

A.3

B. 30

C. 300

- **D.** 3,000
- 12. The capacity of a juice can is 1 liter and 500 mL, then its capacity in milliliters
 - =----mL

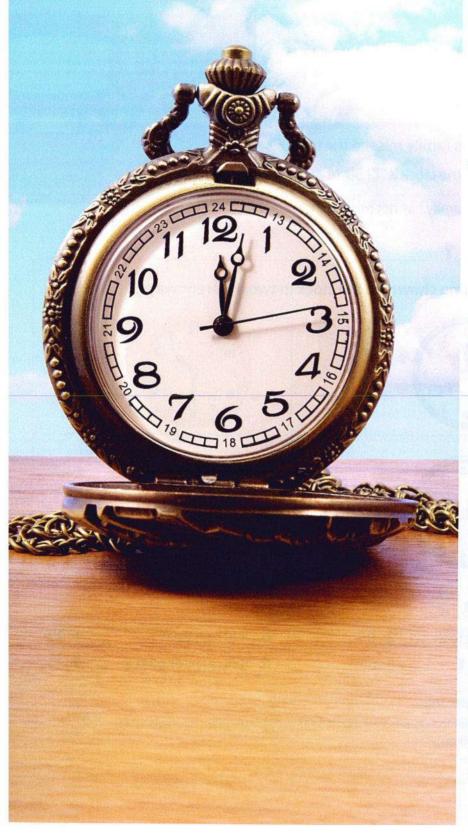
[Giza - Abo El-Nomros 23] [El-Sharkia - Abo Kebeer 22]

- A. 150
- **B.** 1,500

- **C.** 15,000
- **D.** 1,005

CONCEPT 2

Measuring Time



Lessons 4&5

Units of Time Elapsed Time

Learning Objectives:

- Students will tell time to the minute.
- Students will explain relationships between units of time.
- · Students will explain elapsed time.
- Students will solve elapsed time problems.
- Students will explain the strategies they use to solve elapsed time problems.

Lesson 6

Applications of Measurement 1

Learning Objectives:

- Students will add and subtract to solve problems.
- Students will solve story problems involving measurement.
- Students will apply a variety of strategies to solve story problems.

▶ Lesson 7

Applications of Measurement 2

Learning Objectives:

- Students will multiply and divide to solve problems.
- Students will solve story problems involving measurement.
- Students will apply a variety of strategies to solve story problems.

Fast Fact

The first pocket watch was invented in the 1500's by Peter Henlein. It only had an hour hand.

The minute hand was added in the late 1600's.

Lessons

- **▶** Units of Time
- ▶ Elapsed Time

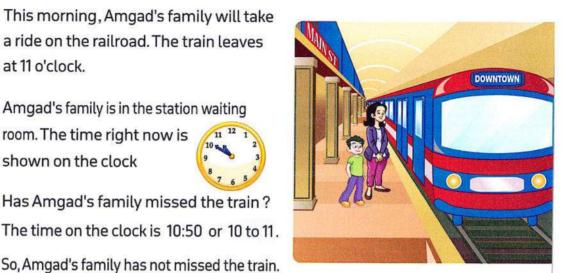


Learn 1 What time is it?

This morning, Amgad's family will take a ride on the railroad. The train leaves at 11 o'clock.

Amgad's family is in the station waiting room. The time right now is shown on the clock

Has Amgad's family missed the train? The time on the clock is 10:50 or 10 to 11.



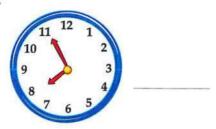
Example 1

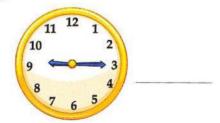
Write the time shown on the clock in two different ways.

a.









Solution [V

- a. It is 2 o'clock 2:00
- c. It is 5 to 8 7:55
- b. It is half past 1
- 1:30 d. It is quarter past 9 9:15

Notes for parents:

 Ask your child to count from 7:00 to 8:00 using 5-minutes intervals (7:00, 7:05, 7:10, and so on).

Units of Measuring Time

• Week, day, hour, minute, second, these units are used to measure time.

1 week = 7 days

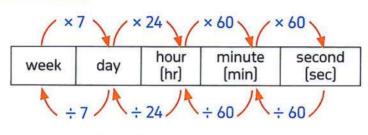
1 day = 24 hours [hr]

1 hour = 60 minutes (min)

1 minute = 60 seconds (sec)



First Using multiplication:





Second Using repeated addition (Pattern):

1 week = 7 days

Week	1	2	3	4	 >
Day	7	14	21	28	 ×

1hour = 60 minutes

Hour	1	2	3	4	
Minute	60	120	180	240	

1day	= 24 hours	
1 day	- 24110013	

Day	1	2	3	4	 7
Hour	24	48	72	96	 ×

1 minute = 60 seconds

Minute	1	2	3	4	
Second	60	120	180	240	

Example 2

Complete.

- **a.** 6 weeks = days
- **c.** 5 days = hours
- e. 9 minutes = ——— seconds
- **b.** 13 weeks = days
- **d.** 8 hours = minutes
- f. 75 minutes = hours, minutes

[·] Ask your child how many hours there are in a week.

Solution [V



- a. You can use multiplication: 6 weeks = $6 \times 7 = 42$ days. or You can use repeated addition: 6 weeks = 7+7+7+7+7+7=42 days.
- **b.** 13 weeks = $13 \times 7 = 7 \times [10 + 3]$ "Distributive property of multiplying" $= [7 \times 10] + [7 \times 3] = 70 + 21 = 91$ days.
- c. $5 \text{ days} = 5 \times 24 = 5 \times (20 + 4)$ "Distributive property of multiplying"

$$(4)$$
= $(5 \times 20) + (5 \times 4) = 100 + 20 = 120$ hours.

- **d.** 8 hours = $8 \times 60 = 480$ minutes.
- e. 9 minutes = $9 \times 60 = 540$ seconds.
- f. 75 minutes = 60 minutes + 15 minutes = 1 hour ,15 minutes

Note for (f)

75 min - 60 min 15 min

Example 3

Find the missing numbers.

- **a.** 4 weeks , 2 days = days. | **b.** 5 days , 5 hours = hours.

to convert units.

Note

c. 3 hours, 20 minutes = — minutes. d. 2 minutes, 30 seconds = — seconds.

Solution [V



- a. 4 weeks = $4 \times 7 = 28$ days. So, 4 weeks, 2 days = 28 days + 2 days $= 30 \, \text{days}.$
- **b.** 5 days = $5 \times 24 = 5 \times [20 + 4]$ = 100 + 20 = 120 hoursSo, 5 days, 5 hours = 120 hours + 5 hours= 125 hours.

You can use different strategies

- c. 3 hours = $3 \times 60 = 180$ minutes.
 - So, 3 hours, 20 minutes = 180 minutes + 20 minutes = 200 minutes.
- **d.** 2 minutes = $2 \times 60 = 120$ seconds

So, 2 minutes, 30 seconds = 120 seconds + 30 seconds = 150 seconds.

dieck your understanding

Fill in the blanks.

- a. 5 hours, 10 minutes = ____ minutes.
- **b.** 3 days , 10 hours = ——— hours.
- c. 4 minutes , 11 seconds = _____ seconds.
 - **d.** 2 weeks , 2 days = _____ days.

Notes for parents:

- Remind your child the distributive property of multiplying.
- · Remind your child how to multiply by multiples of 10.

Learn 2 Elapsed time

Elapsed time is the time that passes from the start to the end of an activity.

Example 4

Laila entered a shopping mall, spent 2 hours, 40 minutes shopping, and spent 50 minutes at lunch in a resturant, and then left the mall. How long did Laila spend in the mall?

Solution [V]

There are different ways to calculate the elapsed time.

1. Add Times

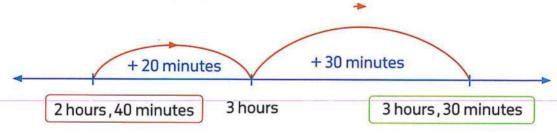
Hours : Minutes 2 : 40

+ : 50

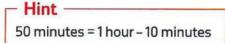
2 : 90 (Rename 90 minutes as 1 hour, 30 minutes) 60 minutes = 1 hour

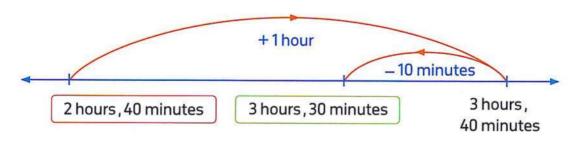
So, 2 hours + 1 hour + 30 minutes = 3 hours, 30 minutes

2. Using a Time Line by Adding



3. Using a Time Line by Subtracting





[·] Help your child find the elapsed time using different ways.

4. Convert Units

[Think: 1 hour = 60 minutes]

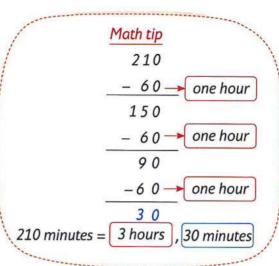
So, 2 hours = $2 \times 60 = 120$ minutes.

Then 2 hours, 40 minutes + 50 minutes

= 120 minutes + 40 minutes + 50 minutes

= 210 minutes

Then, 210 minutes = 180 minutes + 30 minutes = 3 hours, 30 minutes



Next show begins at 9:30 A.M.

Example 5

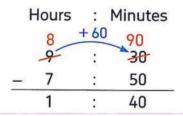
Yasser finds that a cinema show is full when he arrives at 7:50 A.M. next show begins at 9:30 A.M.

How long will he have to wait for the next show?

Solution [V]

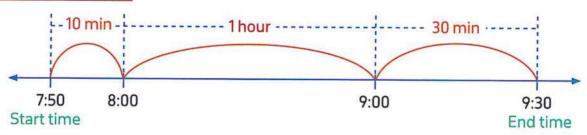
There are different ways to calculate the elapsed time.

1. Subtract Times



So, he will wait 1 hour, 40 minutes for the next show.

2. Using a Time Line



So, he will wait 1 hour, 40 minutes for the next show.

Example 6

Bassem left school at 2:30 P.M. and arrived home 35 minutes later.

What time did Bassem arrive home?

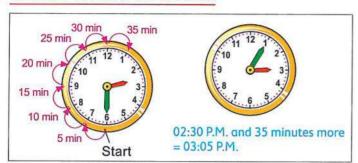
Notes for parents:

· Ask your child what time will be 2 hours after 11:35 A.M.

Solution [7]



1. Count Forward on a Clock

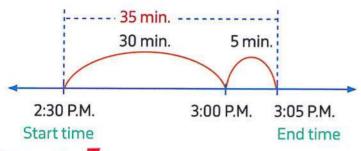


Math tip

When counting forward on a clock, increase one hour for each cross on 12.

So, Bassem arrived home at 3:05 P.M.

2. Using a Time Line



So, Bassem arrived home at 3:05 P.M.

Example 7

Calculate.

c.
$$7:35-40$$
 minutes =

Solution W



Hours Minutes

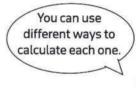
3 15 20 6 9 35

Another Solution

Hours

3:15+6:20=[3+6]:[15+20]= 9:35 Minutes

C.



b. Hours Minutes 5 37

6

$$87 \, \text{min} = 60 \, \text{min} + 27 \, \text{min}$$

= $1 \, \text{hr} + 27 \, \text{min}$

Check

your understanding

27

Peter completed a bike ride 3 hours and 26 minutes after he started. He started the bike ride at 8:15 A.M. At what time did he finish?

Exercise

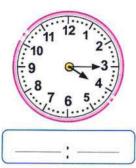
- **▶** Units of Time
- ► Elapsed Time
- REMEMBER
- UNDERSTANDAPPLY
- PROBLEM SOLVING

From the school book

1. Write the time.

on lessons 4&5

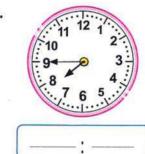
a.



b.



c.

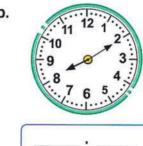


2. Write the time in two ways.

a.



b.



C.



lt's

lt's

It's

3. Complete each of the following tables.

a.	Minute	1	2	3	4	5	6	7	8	9	10
	Second	60									

b.	Hour	1	2	3	4	5	6	7	8	9	10	
	Minute	60										

c.	Day	1	2	3	4	5	6	7	8	9	10
	Hour	24									

d.	Week	1	2	3	4	5	6	7	8	9	10
	Day	7									

4. Complete.

a. 5 weeks = — days.

[Giza 23]

b. 2 hours = — minutes.

[Ismailia 24] [Giza 23]

c. 10 days = — hours.

[Kalyoubia 23]

d. 4 weeks = — days.

[Alex. 23]

e. 5 minutes = ——— seconds.

[Behiera 23]

f. 3 hours = — minutes.

[Monofia - Sadat City 23]

- g. 2 minutes = ——— seconds.
- **h.** 25 days = wee
 - weeks, days.
- i. 130 minutes = hours, minutes.
- j. 50 hours = ——— days, ——— hours.

5. Solve the conversion problems.

a. III 10 hours, 30 minutes = — minutes.

[Aswan 23]

b. A week , 3 days = — days.

[Alex. 24]

c. Two weeks and 3 days = ——— days.

[Cairo 24]

d. 1 day and 5 hours = — hours.

[El-Monofia 24] [El-Menia 24]

e. 4 days, 20 hours = ------ hours.

(Aswan 23)

f. 2 days, 12 hours = ——— hours.

[Cairo - El-Shrouk 23]

g. 10 hours, 30 minutes = — minutes.

[El-Monofia 24] [Port Said 24]

h. 2 hours, 10 minutes = ____ minutes.

(Souhag 23)

i. 4 minutes, 20 seconds = ——— seconds.

[El-Gharbia - Samanoud 22]

j. 🕮 6 minutes ,15 seconds = ——— seconds.

6. Compute the time.



- a. 45 minutes =
- **b.** 4 3:25 + 1:26 =

c. 10:20 – 7:00 = —

- **d.** 7:51 3:35 = —
- **e.** 3:15 + 2:50 = —: [Ismaillia 23]
- f. 2:45 + 6:17 =

q. 3:07 – 42 min =

- **h.** \square 5:43 1:25 = [Aswan 23]
- i. Ali started doing his homework at 5:15 pm, he took 40 minutes to finish it. So, he finished at _____ pm. [Alex. 24]

7. Find the elapsed time.

a. Start:1:20 P.M. End: 9:50 P.M.

b. Start: 6:40 A.M. End: 10: 17 A.M.

c. Start: 4:27 P.M. End: 8:00 P.M.

d. From: 6:43 A.M. To: 9:43 A.M.

e. From: 6:15 A.M. To: noon

f. From: 11: 40 A.M. To:1:20 P.M.

Story problems on measuring time

- Answer the following.
 - a. It takes Dalia 2 hours and 15 minutes to drive to her grandmother's house.

How many minutes does the drive take?

- b. An average ant works for 19 hours a day. How many hours does an ant work in 3 days?
- c. Amir's family used their computer for 3 hours on Saturday, 4 hours on Sunday and 5 hours on Monday. How many total minutes were they on the computer?

d. A worker ant takes 240 naps a day. Each nap lasts 1 minute. About how many hours did the ant nap?

Story problems on elapsed time

	nswer the following.
a	Mona's birthday party started at 7:00 in the evening. It took around 2 hours and 40
	minutes for the party to get over. What is the time at which the party got over?
b	. 🕮 Farah was training for a marathon. Her goal was to run for 1 hour and 30 minutes. If she started running at 8:35 A.M., what time did she finish running?
C.	The train was scheduled to arrive at 5 : 10 P.M. However, it was delayed for 57 minutes.
	What time was it when the train arrived?
71040	
d.	The game started at 7:50 P.M. It ended at 10:05 P.M.
	How long was the game?
	Paula starts to do his school homework at 3 : 30 P.M. He spends 45 minutes in doing his
0	math homework and 25 minutes in doing his science homework.
	What is the time at which he finished both homeworks?

- f. III Jana and Maha have 5 hours to watch three movies that last 1 hour and 22 minutes, 2 hours and 12 minutes and 1 hour and 57 minutes.
 - 1. Do the girls have enough time to watch all three movies? How do you know?
 - 2. The girls decide to just watch the two shortest movies. If they start watching them at 5:30 P.M., what time will their movies end?

g. 💷 A worker ant went out to find food for the colony. It left at 6:30 A.M. and returned at 7: 42 A.M. How long was that ant looking for food?



Multiple Choice Questions

Choose the correct answer.

C. multiply 6 by 60 D. multiply 6 by 24

C. 7:00

D. 7:05

Lesson

Applications of Measurement 1 [Addition and Subtraction]



Problem

Ali and Giovanni each caught a fish.

The two fish have

a mass 8,250 g

The mass of Giovanni's fish

is 3 kg, 530 g

What is the mass of Ali's fish?





Understand

- What are you asked to find?
- What information will you use?
- Is there any information you will not use? If so, what?



Plan

- · What strategies can you use to solve the problem?
 - Convert measurement units first.
 - Use subtraction standard algorithm.



Solve

How can you use the strategy to solve the problem?

The mass of Giovanni's fish = 3 kg, 530 g (Think: 1 kg = 1,000 g)

$$= 3,530 g$$

The mass of Ali's fish = 8,250 - 3,530

=4,720 g

= 4 kg,720 g



Check

What other strategy could you use?

Notes for parents:

· In this lesson, your child will use addition and subtraction to solve multistep story problems involving length, mass, capacity, and time.



Example 1

Abeer purchased 7 kilograms of sugar.

10 kilograms of flour, 500 grams of cocoa,

275 grams of pecans, and 225 grams of coconut.

What is the total mass of her groceries

in kilograms?

Solution [V]

The total mass =
$$7 \text{ kg} + 10 \text{ kg} + 500 \text{ g} + 275 \text{ g} + 225 \text{ g}$$

$$= (7 + 10) kg + (500 + 275 + 225) g$$

$$= 17 \text{ kg} + [775 + 225] \text{ g}$$

$$= 17 \text{ kg} + 1,000 \text{ g}$$

$$= 17 \text{ kg} + 1 \text{ kg}$$

= 18 kg

Strategies

- Estimate
- Use smaller numbers
- · Draw a picture of model (number line, bar model, diagram, and so on]
- Write an equation with the unknown
- · Use the standard algorithm
- Find a hidden question
- Convert measurement units first
- Make a benchmark number

(Associative property)

[Convert measurement units]

Example 2

A tailor used 1 m, 35 cm of cloth to make a shirt and 2 m, 15 cm to make trousers.

What is the total length of cloth used by the tailor to make a shirt and trousers?

Solution [V



The total length = 1 m + 35 cm + 2 m + 15 cm

$$= (1 + 2) m + (35 + 15) cm$$

[Commutative and associative]

$$= 3 m + 50 cm$$

$$= 3 \, \text{m}$$
 and $50 \, \text{cm} = 350 \, \text{cm}$

Another strategy

Convert measurement units first

$$1 \,\mathrm{m}, 35 \,\mathrm{cm} = 135 \,\mathrm{cm}$$

$$2 \, \text{m}$$
, $15 \, \text{cm} = 215 \, \text{cm}$

The total length =
$$135 + 215$$

Use Break up and Bridge strategy

$$135 = 100 + 30 + 5$$

$$215 = 200 + 10 + 5$$

$$300 + 40 + 10 = 350 \, \text{cm}$$

[·] Ask your child what strategy he/she decided to use, and why he/she chose it.

Example 3

A fish tank with a capacity of 92 liters is filled with 23,000 milliliters of water.

How many more liters of water are needed to fill it up completely?

Solution [V]



Convert measurement units first.

23,000 mL = 23 L [Think: 1,000 mL = 1 L]

Number of liters needed to fill up the tank

(8)(12)

= 92 L - 23 L

= 69 L

[Standard subtraction algorithm]

Another way to subtract 92 - 23

Add to subtract strategy 23 + 7 = 30

$$So.7 + 60 + 2 = 69$$

Then
$$92 - 23 = 69$$

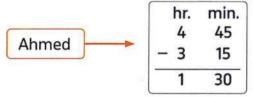
Example 4

Ahmed studied from 3:15-4:45. His sister, Sarah studied from 4:30-6:15

Who studied longer and by how much?

Solution [V]





The time of Ahmed $= 1 \, hr$, and 30 min.

$$= 60 + 30 = 90$$
 min.

The time of Sarah = 1 hr. and 45 min.= 60 + 45 = 105 min.

So, Sarah studied longer than Ahmed and the difference = 105 - 90 = 15 min.

check your understanding

- 1. Two wooden planks of lengths 12 m, 60 cm and 18 m, 63 cm are glued together to make a long wooden bridge. What is the total length of the bridge?
- 2. Ashraf purchased 7 kg, 200 g of sugar, 9 kg, 395 g of rice. What is the total mass which Ashraf purchased?

Notes for parents:

Ask your child to use different strategies to solve the problems.

Exercise 15 on lesson 6

Applications of Measurement 1 [Addition and Subtraction]

● REMEMBER ● UNDERSTAND ○ APPLY ♣ PROBLEM SOLVING	From the school book
First : Problems involving length	Strategies
1. One box is 44 cm, 5 mm tall. Another box is 35 cm. tall. How tall will the boxes be if both are stocked one on top of the other?	Estimate Use smaller numbers Ine, bar model, diagram, and so on Write an equation with the unknown Use the standard algorithm Find a hidden question Convert measurement units first Make a benchmark number
2. Sameh has 63 m of ribbon. If he cuts 56 m, 21 cm ribb be left?	oon from it, what length of ribbon will
3. Rania is measuring two ant lines. Colony A's ant line ant line is 500 millimeters long. How many centimeter	
4. An ant from Colony A walked 2 kilometers in a day. A meters in a day. Which ant walked the farthest and how	
Taher grew 10 centimeters in 1 year. He is now 1 me centimeters tall was Taher 1 year ago?	eter, 6 centimeters tall. How many

Second: Problems involving mass

6.	Adam bought 5 kg of milk and 200 g. Re-write this weight in grams. [Cairo 24]
7.	Zeina purchased 8 kilograms of sugar, 10 kilograms of flour, 500 grams of cocoa, 225 grams of pecans, and 275 grams of coconut. What is the total mass of her groceries in kilograms?
8.	In Colony A, the ants collect 950 grams of food. If they consume 25 grams of food on Monday and 37 grams of food on Tuesday, how many grams of food are left?
9.	The potatoes Aya bought weight 2 kilograms, 920 grams. Her onions weighed 1,075 grams less than the potatoes. How much did the potatoes and onions weight together?
10.	Ali's cat weighs 7 kilograms and his dog weighs 17 kilograms. When Ali took them to the vet, he learned that his cat gained 450 grams and his dog gained 120 grams. How much do his two pets weigh in all now?
Th	ird : Problems involving capacity
11.	A fish tank with a capacity of 100 liters is filled with 20,000 milliliters of water. How many more liters of water are needed to fill it up completely?
12.	A milkman sold 46 L, 200 mL of milk on 3 days of a week and 53 L, 195 mL of milk in the next 2 days. What quantity of milk did he sell in the 5 days?

Fourth: Problems involving time

- 14. A bus leaves for Cairo at 4:30 P.M. It takes 1 hr, 25 min. to reach there. At what time will it reach at Cairo?
- 15. The duration of a film show is 3 hr, 15 min. It starts at 6: 30 P.M. When will it end?
- **16.** A pharaoh ant grows from egg to adult in 45 days. A carpenter ant grows from egg to adult in 12 weeks. Which species takes longer to grow from egg to adult? How much longer?
- 17. Worker ants take power naps totaling up to 250 minutes a day. A queen ant may sleep up to 9 hours a day. Which ant sleeps longer and by how many minutes?

Challenge

18. Amal has a rope of length 40 m. She gave 12 m, 53 cm to Amgad, 18 m, 35 cm to Bassem and 9 m, 7 cm to Ayman. What length of rope is still left with Amal?



Multiple Choice Questions

Choose the correct answer.

1. Shaimaa poured 5 L of water into a beaker. During an experiment, she added 200 mL of water.

How much water was in the beaker at the end of the experiment?

- A. 205 mL
- **B.** 2,500 mL
- C. 4,800 mL
- **D.** 5,200 mL
- 2. Bassem bought 3 meters of rope. He then cut off 170 centimeters of rope to glue around the edge of a pot. How many centimeters of rope does Bassem have left?
 - **A.** 173
- **B.** 470

- C. 130
- D. 167

- 3. Hany ran 1,800 meters on Saturday and 3 km, 200 m on Sunday. How many meters did be run in all?
 - **A.** 5

- **B.** 1,400
- **C.** 4,000
- **D.** 5,000
- 4. A box contains 2 bags of sugar. If the mass of each one is 1 kg and 300 g, what is the total mass in grams?
 - A. 600
- **B.** 2,600
- C. 2,800
- **D**. 1,300

- 5. If Vector studied from 4:10 to 5:00, then he studied minutes.
 - **A.** 60
- B. 110
- C. 40
- **D.** 50

- 6. Peter is over weight. He is 105 kg. If his aim his aim is to loss 500 g per week, then

 Peter's mass after 2 weeks is ______ kg.
 - A. 104
- **B.** 105
- C. 106
- **D.** 107
- 7. Mr. Bassem bought 3 cartons of juice which are 2 liters each. If his three children finished 4,700 milliliters, then the left of juice is _____ mL
 - **A.** 2,300
- **B.** 2,700

C. 300

D. 1,300



Lesson

Applications of Measurement 2 [Multiplication and Division]



Wael has a 20 meter-long piece of wood. He wants to cut it into 4 equal lengths. How long should each cut piece be in meters? How long will each of these pieces be in centimeters?

Solution [V



- The length of each piece in meters = $20 \div 4 = 5$ m [Think: $4 \times 5 = 20$]
- The length of each piece in centimeters = 5×100

= 500 cm [**Think** : 1 m = 100 cm]



A cow gives 22 L and 500 mL of milk daily. If the milkman has 10 cows, how much milk does he got in liters in a day?

And if the daily milk is filled in bottles of capacity 1,000 mL,

how many bottles will be required?

Solution [V]



- 22 L,500 mL = 22,500 mL
- The milk from 10 cows in mL = $22,500 \times 10 = 225,000$ mL The milk from 10 cows in L = $225,000 \div 1,000 = 225$ L
- The capacity of one bottle is 1,000 mL = 1L Then the milkman needs 225 bottles

Notes for parents:

· In this lesson, your child use multiplication and division to solve multistep story problems involving length, mass, capacity, and time.





Example 3

A box can carry a total mass of 10 kg. Laptops have to be packed inside the box.

If the mass of each laptop is 2,000 g, how many laptops can be packed inside the box?

Solution [V]

- The mass of each laptop = 2,000 g = 2 kg (Think: 1,000 g = 1 kg)
- The number of laptops can be packed inside the box = $10 \div 2 = 5$ laptops

Example 4

Mona is stringing beads to make a necklace. She is using 30 of the 8 mm beads, 70 of the 4 mm beads, and 40 of the 2 mm beads. How long will her finished necklace be in cm?

Solution [

 $30 \text{ of } 8 \text{ mm} = 30 \times 8 = 240 \text{ mm}$

 $70 \text{ of } 4 \text{ mm} = 70 \times 4 = 280 \text{ mm}$

and 40 of 2 mm = $40 \times 2 = 80$ mm

So, the length of her finished necklace = $240 + 280 + 80 = 600 \text{ mm} = 600 \div 10 = 60 \text{ cm}$

Example 5

Salwa is a runner. She spends half an hour every day running.

How many minutes in total does she run for during a 9-day period?

Solution [V]

What she runs each day = Half an hour = 30 min.

What she runs for during a 9-day period = $30 \times 9 = 270$ min.

Check

dheck your understanding

In a relay race, 4 people ran 3,000 meters each. In a distance race, John ran 15 kilometers.

Who ran farther, the whole relay team or John? How much farther?

Notes for parents:

- Tell your child that multistep problem needs to know what information do you have to help you solve the problem.
- Help your child read and understand to figure out the problem and use the information to decide which operation to use.

Exercise 16 on lesson 7

Applications of Measurement 2 [Multiplication and Division]

	REMEMBER	UNDERSTAND	APPLY	- PROBLEM S	SOLVING		From the so	chool book
Fi	i rst : Pro	oblems invo	lving leng	ıth				
1	Ants wa	alk about 5,00	0 meters ea	ach day.				
0	How ma	any meter do a	ants walk ir	n 5 days?			(E	l – Menia 24)
2.	Arunne	r covers 750 m	neters in an	hour. Calcu	ulate the dis	stance he c	overs in 5 hour	s. [Alex.24]
3.		g should each					nto 3 equal leng of these piece	
4.		travelled 9 da ny kilometers			ravelled 5,0	00 meters	each day.	
Se	cond :	Problems in	volving m	nass				
5.	If the ma	ss of a box is 3	320 kg, ther	n find the m	nass of 4 box	kes with the	e same mass.	[Alex. 24]
6.		is a weightlift ne does that fo					s to gain 500 gi ?	rams per
7.		hed 1 gram an					s walking by. If o	
							(C)	

Third: Problems involving capacity

8.	A water purifier cleans 10 L ,50 mL of water each day. How much water will be cleaned by the cleaner in 10 days ?
9.	Ayman is a runner. While Ayman is in training, he needs to drink 500 milliliters of water 4 times per day. How many liters of water will that be for 1 week?
10. ••	Mostafa has 32 liter bottles of soda. If he divides the soda equally between himself and his 7 friends, how much soda will each person have?
Fo	ourth : Problems involving time
11.	Hossam sleeps 8 hours each day. How many hours did he sleep in 5 days? [Giza 24]
12.	An ant works for 19 hours a day. How many hours does an ant work in 3 days ? [Kafr El-Sheikh 24] [Luxor 24]
13.	Amany is a swimmer. She spends half an hour every day swimming. How many

Challenge

14. 🕮 An ant is at the bottom of a 20-meter deep well and is trying to get to the top. Each day it climbs 4 meters up, but each night it slides back 2 meters. How many days does it take for it to get out of the well?

Multiple Choice Questions

Choose the correct answer.

1.	Adel spends 6 hours	at school. If we want to	o calc	ulate Adel's school o	day in minutes ,
	we ———				[Giza – Awseem 23]
	A. add 6 with 60			B. add 6 with 24	
	C. multiply 6 by 60			D. multiply 6 by 24	
2.	A building is 20 mete	ers tall. A bridge is 5 me	ters t	all. How many times	s the building is taller
	than the bridge?				[Alex Al-Agamy 23]
	A. 3	B. 4		C. 15	D. 10
3.	Sami has 25 meter-lo	ong piece of cloth. If		If Mina travelled 10	days continuously.
	he wants to cut it into	5 equal pieces, the	0	He travelled 4,000	meters each
	length of each one ed	quals ————		day, then he walk i	n all about ————
				kilometers.	
	A. 4 m	B. 5 m		A. 4	B. 40
	C. 50 cm	D. 125 cm		C. 400	D. 4,000
5.	If Mohamed rides his	cycle 10 km per day	6.	If the total mass of	10 balls having same
	, then he covers —	——— in 5 days.	0	mass is 130,000 gra	ams, then the mass
				of each ball is —	kg.
	A. 2 km	B. 5 km		A. 130	B. 1300
	C. 5,000 m	D. 50 km		C. 13	D. 13,000
7.	If ants walk about 3,0	00 meters each	8.	An ant walks up to 2	2 km per day. If the
	day, then the ants wa	ilk ——— km		ant continues this fo	or 10 days, then the
	in 5 days.				meters.
	A. 3	B. 150		A. 200	B. 2,000
	C. 15,000	D. 15		C . 20,000	D . 200,000
		J.			

Unit Three Assessment



1. Choose the correct answer.

- **1**. 5 kg = 5,000 ———
 - A. m
- B. day

C. g

D. L

2. 6 m + 25 cm = ____ cm

nor **n**

2. 0111 · 25 cm — cn

D. 652

- **A.** 6,025
- **B.** 625

C. 6,205

3. 7 liters and 600 mL = ____ mL

D. 70,600

- **A.** 76
- **B**. 760

C. 7,600

[Cairo 23]

[El-Monofia 24]

[Cairo 24]

4. 1 day and 6 hours = — hours

_ _.

- A. 7
- **B.** 30

C. 66

D. 36

- 5. 5,050 mL = ____ L , 50 mL
 - A. 5
- **B**. 50

C. 500

D. 5,000

6. 2 kg, 250 g + 3 kg, 750 g = kg

(Giza 24)

- **A**. 5
- **B**. 6

C. 7

- **D**. 8
- 7. The elapsed time from 3:50 A.M. to 7:00 A.M. is _____
 - **A.** 3 hr, 50 min

B. 3 hr, 10 min

C. 4 hr, 10 min

D. 4 hr, 50 min

2. Complete each of the following.

1. 5 Weeks = _____ days

[Kafr El-Sheikh 24]

- **2.** 9,000 mL = _____ liters
- [Port Said 24] (Souhag 23)
- 3. 15,423 m = ____ km, ___ m
- (El-Monofia 24)

4. 35 kg, 76 g = _____ g

- [Kafr El-Sheikh 24]
- 6. 8 meters, 45 cm = ____ cm [El-Monofia Berket El-Sabaa 23]
- 7. 8:25 + 35 minutes = _____
- 8. 6:34-1:25 = _____



3. Choose the correct answer.

- 1. 5 L , 13 mL = ____ mL

 - A. 513
- **B.** 5,013

C. 50,013

D. 500,013

[El-Monofia - Quesna 23]

- 2. 6 minutes and 30 seconds = ____ ----- seconds

 - A. 630
- **B.** 390

C. 330

- [Cairo El-Marg 23]
 - **D.** 306

- 3. kilometers and 45 meters = 5,045 meters
 - A. 5
- **B.** 545

C. 45

D. 4,055

- 4. 6 liters = ____ mL
 - **A.** 6,000
 - **B.** 600

C. 60

[Cairo 23]

[Giza 24]

5. 5 m = ____ cm

D. 60,000

- - **A.** 5
- **B.** 50

C. 500

D. 5,000

[El-Beheira - Hosh Essa 23]

6. 1 week and 3 days = _____ days

[Giza 23]

A. 7

A. >

B. 8

C. 9

D. 10

- **7.** 17 tons 7,000 kg
- B. =

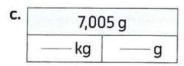
C. <

D. otherwise

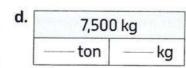
Answer the following.

- 1. A fizzy can of mass 300 g, Jana bought 6 cans. What is the total mass of cans in kilograms and grams?
- 2. Sarah purchased 3 kg , 400 g of sugar and 5 kg , 217 g of rice. What is the total mass which Sarah carried?
- 3. 10 books of height 8 cm ,5 mm each are stacked over one another. What is the total height so obtained?
- 4. Find each missing number.

а. Г		— mL
	9 L	450 mL



b. 10,100 m km



m



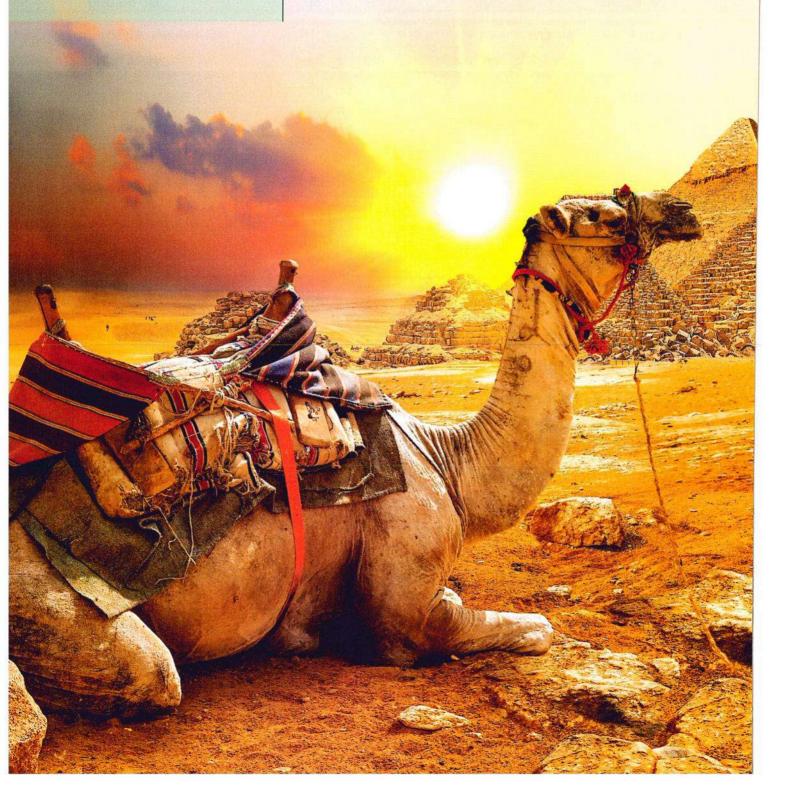


Number Sense and Operations

UNIT 4

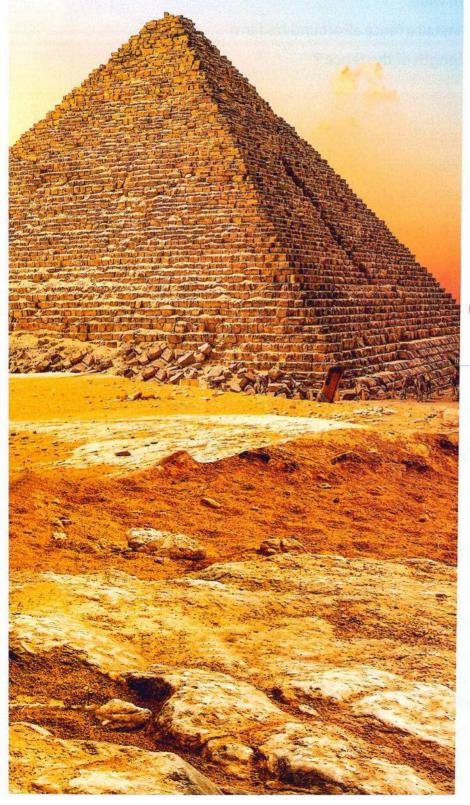
Area and Perimeter

► Concept 1: Explore Area and Perimeter



CONCEPT

Explore Area and Perimeter



Lesson 1

Finding Perimeter

Learning Objectives:

- Students will define perimeter.
- Students will use formulas to calculate the perimeter of rectangles.
- Students will explain how to calculate perimeter.

▶ Lesson 2

Finding Area

Learning Objectives:

- Students will difine area.
- Students will use formulas to calculate the area of rectangles.
- Students will explain how to calculate area.

▶ Lesson 3

Unknown Dimensions

Learning Objectives:

 Students will use formulas to calculate unknowns when given some dimensions of rectangles.

▶ Lesson 4

Complex Shapes

Learning Objectives:

- Students will calculate the area and perimeter of complex shapes.
- Students will explain their strategies for finding the area and perimeter of complex shapes.

Fast Fact

The Great Pyramid of Giza (also known as the pyramid of Khufu) is the largest of the three pyramids. Its base is just like a square, the length of each side at the base averaging 230 meters.

What is its perimeter?!

1

Finding Perimeter

Learn 1 Using formula to find the perimeter of a rectangle



Problem

Omar is a farmer. His rectangular farm is 60 m long and 40 m wide.

He wants to install a fence all around his farm.

You can use a formula to find the perimeter of

a rectangle. Where "P" stands for perimeter,

What is the length of the fence?

"l" for length and "w" for width.





Remember

- Perimeter is the distance around the figure.
- Each two opposite sides in the rectangle are equal in length.



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Rectangle	Perimeter	Formula
	Perimeter = length + width + length + width	P=l+w+l+w
w l	or Perimeter = [2 × length] + [2 × width]	or P = [2 × l] + [2 × w] or
	Perimeter = 2 × (length + width)	$P = 2 \times [l + w]$

So, the length of the fence =
$$60 + 40 + 60 + 40$$
 [Think: $P = l + w + l + w$]
= $100 + 100 = 200 \text{ m}$

Or the length of the fence =
$$[2 \times 60] + [2 \times 40]$$
 [Think: $P = [2 \times l] + [2 \times w]$]
= $120 + 80 = 200 \text{ m}$

Or the length of the fence =
$$2 \times [60 + 40]$$
 [Think: $P = [2 \times [l + w]]$
= $2 \times 100 = 200 \text{ m}$

Notes for parents:

 Make sure your child understand that a formula is a rule that tells how to solve a problem.

Learn 2 Using formula to find the perimeter of a square

• All squares are rectangles. Square has 4 equal sides.

You can use a formula to find the perimeter of a square.

Where "P" stands for perimeter and "s" stands for side length.

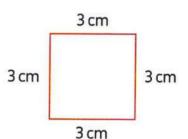
Square	Perimeter	Formula		
S	Perimeter = side + side + side + side	P=s+s+s+s		
s s	or	or		
S	Perimeter = 4 × side	P = 4 × s		

For Example:

To find the perimeter of the opposite square use the formula

$$P=s+s+s+s$$

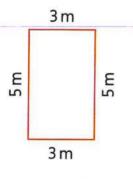
= 3+3+3+3=12 cm



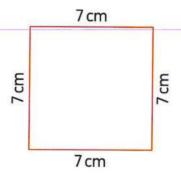
Example 1

Calculate the perimeters of the following shapes. Use different formulas to solve each problem.

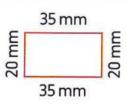
a.



b.



C.



Solution [V

- a. First formula: $P = (2 \times 1) + (2 \times w) = (2 \times 5) + (2 \times 3) = 10 + 6 = 16 \text{ m}$
 - Second formula: $P = 2 \times (l + w) = 2 \times (5 + 3) = 2 \times 8 = 16 \text{ m}$
- **b.** First formula: P = s + s + s + s = 7 + 7 + 7 + 7 = 28 cm
 - Second formula : $P = 4 \times s = 4 \times 7 = 28$ cm
- Remind your child to take careful note of the measurement unit used in each problem.
- · Ask your child to find the perimeter of a window in his/her room using a formula.

c. • First formula: P = l + w + l + w = 35 + 20 + 35 + 20

• Second formula: $P = 2 \times (l + w) = 2 \times (35 + 20) = 2 \times 55 = 2 \times (50 + 5)$

Remember You can use the distributive property to multiply

 $= 100 + 10 = 110 \, \text{mm}$

Example 2

Ahmed wants to make a rectangular carpet of perimeter 12 m.

Draw different rectangles that could represent his carpet.

Solution [V]

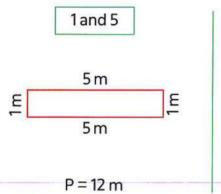


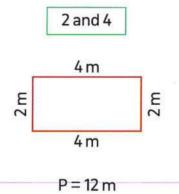
To find different rectangles of perimeter 12 m, do as follows:

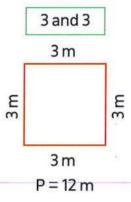
1. Find half of perimeter [half of perimeter = l + w]

$$l + w = 12 \div 2 = 6 \text{ m}$$

2. Find two numbers their sum is 6, these two numbers are length and width of the required rectangle

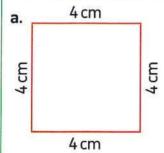


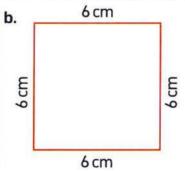


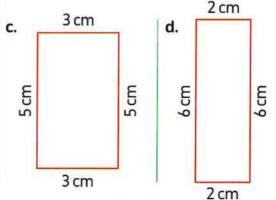


check your understanding

Find the perimeter of each of the following shapes.







Notes for parents:

· Review the distributive property using numbers rather than measurements.

Exercise on lesson 1

Finding Perimeter

REMEMBER

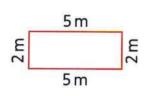
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O APPLY

PROBLEM SOLVING

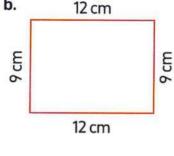
- From the school book
- 1. Use the formula P = l + w + l + w to calculate the perimeter of each of the following rectangles.

a.



P = -





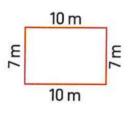
C.



P = -

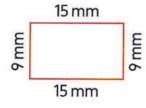
2. Use the formula $P = (2 \times l) + (2 \times w)$ to calculate the perimeter of each of the following rectangles.

a.



b.

P = -

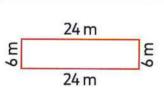


P=



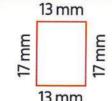
P =

3. Use the formula $P = 2 \times (l + w)$ to calculate the perimeter of each of the following rectangles.

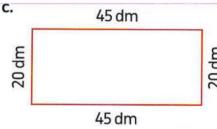


P = -

b.

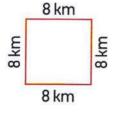






4. Use the formula $P = 4 \times s$ to calculate the perimeter of each of the following squares.

a.



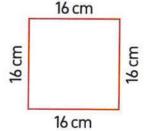
P =-

b.





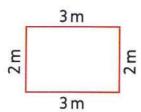
P =



141

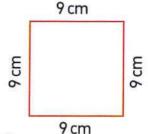
5. Calculate the perimeter of each of the shapes that follow. Use two different formulas to solve each problem. Show your work.

a.



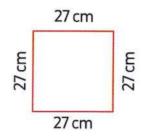
- · First formula:
- Second formula:

b.

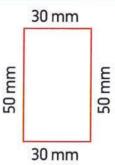


- · First formula:
- Second formula:

c. 📖



d. 🕮



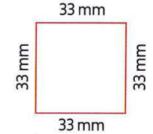
- First formula: -
- Second formula: -

- First formula: -
- Second formula: —

e. 🕮



f.



- First formula: -
- Second formula:

equals — cm

- First formula: —
- Second formula:

6. Complete.

a. The perimeter of the rectangle = [length + width] × _____

[Cairo - El-Salam 23]

b. A rectangle has length (l) and width (w), its perimeter = —

[Cairo 23]

c. If the side length of a square is (s), then its perimeter = _____x_

[Alex. - Al-Agamy 23]

- d. A square of side length 3 cm, then its perimeter = ____ cm [Cairo Rod El-Farag 23]
- e. A carpet in the shape of a square of side length 3 m, its perimeter = ____ m [Giza 23]
- f. The perimeter of the rectangle its length is 7 cm and its width is 5 cm

(Souhag 23)

g. A rectangular picture its length is 8 cm and its width 5 cm, then its perimeter is -

[Ismailia 24]

0	Find the perimeter of each of the following.				
	a. § b. § 7 5 cm				
8.	A rectangular carpet is 6 meters long and 4 meters wide. Find its perimeter.	[El-Menia 24]			
9.	A rectangular gymnasium is 7 meters long and 4 meters wide .Find its perimeter	. [Port Said 22]			
10.	Find the perimeter of the rectangle with a length of 8 cm and a width of 6 cm (Alex F	irst Montaza 23)			
11.	Find the perimeter of the rectangle whose length is 16 cm and its width is 14 cn	n. [Cairo 23]			
12.	Sarah is putting a border around the edge of a square cake. One side of the company that square cake is a square cake of the company that square cake is a square cake. One side of the company that square cake is a square cake. One side of the company that square cake is a square cake.	ake is			
13.	Sherif is building a square picture frame. Each side will be 63 millimeters long. What will the perimeter of the frame be?				
14.	A soccer team is roping off part of a field to play soccer. To have enough roon crowd, they need a space that is 105 meters long by 68 meters wide. How much they need for this part of the field?	n for a large I rope will			
15.	A carpenter ant walked a perimeter of 100 centimeters. Draw two different rethat could represent its walk.	ectangles			

Multiple Choice Questions

Choose the correct answer.

1. A rectangle its length is l and its width is w What is its perimeter?

[Port Said 24] [Cairo 23]

- A. l+w
- B. l×w
- C. $2 \times [l+w]$
- D. $[2 \times l] + w$
- 2. Which choice shows the formula for the perimeter of a square?

[P = perimeter, s = side length]

- A. P=4+s
- B. P=4×5
- C. P=s×s
- D. P=s+s

3. The perimeter of a square of sid length 10 cm iscm

[El-Menia 24]

- A. 100
- **B.** 10

C. 20

D. 40

4. A square whose side length is 5 cm, then its perimeter is _____ cm

[El-Monofia - Sers El-Layyan 23] [Cairo - El-Nozha 23]

A. 20

B. 25

C. 15

D. 35

5. A rectangle with length 8 cm, width 5 cm, then its perimeter = ____ cm

[El-Monofia 24] [Port Said 24]

A. 40

B. 13

C. 26

D. 3

6. The perimeter of rectangle of dimensions 4 cm and 5 cm is ——— cm

[Kafr El-Sheikh 24]

A. 20

B. 9

C. 18

D. 36

7. A rectangle has 4 cm width and 6 cm length, then its perimeter = cm

[Cairo 24]

- **B.** 20

C. 24

A. 10

D. 48

8. The perimeter of the opposite rectangle equals-

2m

[Cairo - El-Nozha 23]

5_m

- A. 10 m
- **B.** 20 m
- C. 14 m
- D. 14 cm
- Which of the following rectangles has perimeter of 32 m?

4 m



B.



12 m



2

Finding Area



Learn 1 Using formula to find the area of a rectangle

Sameh tiled the rectangular floor in his front hall. He used square tiles that measure 1 meter on each side.

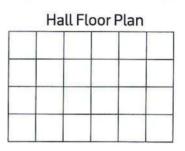
How many tiles did he use?

One Way

You can count square units to find the area.

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24

Record your answer in square units. A = 24 square meters.





Remember

Area is the number of square units needed to cover the surface of a figure.

Another Way

You can also use a formula.

The formula for the area of a rectangle is

Area = $length \times width$ Or $A = l \times w$

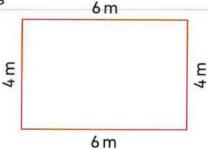
Use the formula to find the area.

 $A = l \times w$

 $A = 6 \times 4$

A = 24 square meters

So, Sameh used 24 tiles.



Math tip

You can write square meters as m²

, and write square centimeters as cm²

Notes for parents:

Ask your child to find the area of a carpet in his/her room using a formula.

Learn 2 Using formula to find the area of a square

The formula for the area of a square is

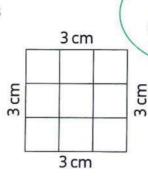
Area = side length \times itself Or A = 5×5

For Example:

The area of the opposite square

$$A = s \times s = 3 \times 3$$

= 9 square centimeters (cm²)



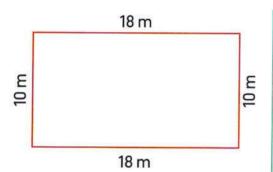
Try to count square units to find the area, you will get the same result.



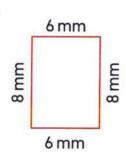
Example

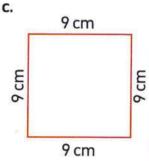
Find the area of each of the following.

a.



b.





Solution [V]



a.
$$A = l \times w = 18 \times 10 = 180 \text{ m}^2$$

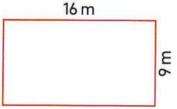
b.
$$A = 1 \times w = 8 \times 6 = 48 \text{ mm}^2$$

c.
$$A = s \times s = 9 \times 9 = 81 \text{ cm}^2$$

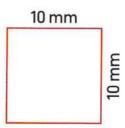
Example 2

Find the area and perimeter of each figure.

a.



b.



Remember

- Perimeter : Measurement of the distance around the shape.
- · Area:

Measurement of the space inside the shape.

Notes for parents:

· Ask your child to use a formula to calculate the area of the door of his/her room.

Solution [V]



a.
$$A = l \times w = 9 \times 16 = 9 \times [10 + 6] = 90 + 54 = 144 \text{ m}^2$$

$$P = 2 \times (l + w) = 2 \times (9 + 16) = 2 \times 25$$

= $2 \times (20 + 5) = 40 + 10 = 50 \text{ m}$

b.
$$A = s \times s = 10 \times 10 = 100 \text{ mm}^2$$

 $P = 4 \times s = 4 \times 10 = 40 \text{ mm}$

Example 3

A small fish farm in the shape of a rectangle. Its dimensions are 10 meters and 8 meters. What is the area of the fish farm?

Solution [V



$$A = l \times w = 10 \times 8 = 80 \text{ m}^2$$

Example 4

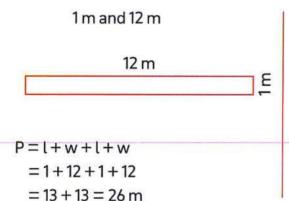
The area of a piece of paper in the shape of a rectangle is 12 square meters.

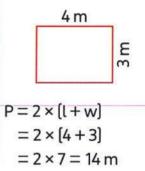
What is the perimeter of this piece? Draw your answer and write the dimensions.

Solution [V]



You need to find two numbers their product is 12, these two numbers are the rectangle dimensions.

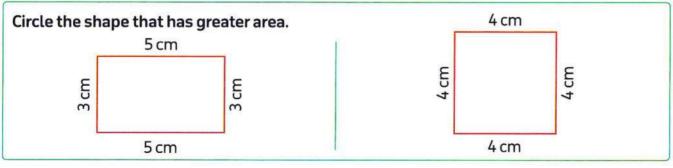




3 m and 4 m

You can use different formulas to calculate the perimeter of a rectangle.

Check your understanding



Challenge your child to draw many rectangles with area 30 cm².

Exercise on lesson 2

Finding Area



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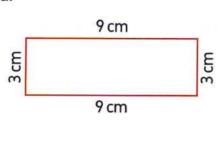
O APPLY



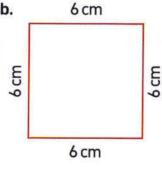
From the school book

1. Write the formula of the area of each rectangle or square, then find its area.

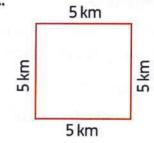




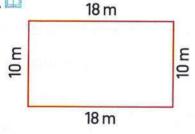
b.



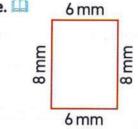
C.



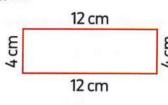
d. 🛄



e. 🕮

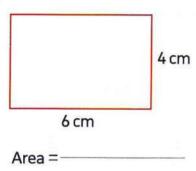


f. 🕮

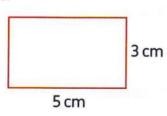


2. Find the area and perimeter of each figure.

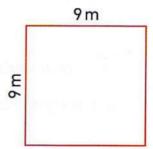
a.



b.



C.



Perimeter = -	

[Cairo 24]

[El-Monofia - Sadat City 23]

Area =

(Giza 24) (El-Menia 23)

Area =

Perimeter =

3	Complete.		
	a. Area of square = ×		[Alex West 23]
	b. A square whose side length is 4 meters, then its area is —	[El-Men	ia - Dir Mawas 22]
	c. Area of square which its side length 6 cm is ———— cm ²	(Port	Said 24] [Cairo 24]
	d. The area of square of side length 8 cm is ———— cm ²	E	[Alex. 24]
	e. The area of the opposite square is ———— cm ²	70	(Cairo 24)
	f. A garden in the shape of a square whose side length is 9 m	eters,	
	then its area = ——— square meters. [Ale	x. – Agamy 23) (Ca	iro – El-Salam 23)
	g. A rectangle of length 6 cm and width 4 cm, then its area =		[Cairo 24]
	h. A rectangle of length 8 cm, width 3 cm, then its area = —	cm ² [c	airo – El-Marg 23)
	i. The area of a rectangle its dimensions are 5 cm and 3 cm is		
	j. The length of a rectangle is 10 mm and the width is 8 mm, to rectangle equals ————	hen the area of	fthis
4.	Find the area of the opposite rectangle.	10 cm	[Port Said 24]
0		10 CITI	T OIT Said 24)
5.	Find the area of the opposite rectangle.	25 m	[Port Said 24]
O	E		E 0
		25	
		25 m	
6.	Calculate the area of a rectangle if its length is 9 cm and width	is 5 cm	[Cairo 23]
7.	A square whose side length is 4 meters, then find its area in sq	uare meters.	[Cairo 24]
8.	Sherif has a garden in squared shape with side length 5 meters What is the area of this garden ?	5.	[Beni Suef 24]
9.	A square picture of side length 8 cm. Hussein wants to cut a pie picture, what is the area of the glass piece?		cover this El-Kalyoubia 22)



Lesson 2 REMEMBER OUNDERSTAND APPLY

17. What is the length of a rectangle, if its area is 24 cm² and its perimeter equals a number between 20 cm and 30 cm?

Choose the correct answer.

1.	If the length of a rec	1000	2. Area of square	= side length ×
NE.	width is w, then its		•	(Ismailia 23)
	A. A=l-w	[Cairo – El Shrouk 23] B. A = l + w	A. itself	B. width
	C. $A = l \times w$	D. A=l÷w	C. 4	D. height
3.	The area of the oppo	osite figure equals ——		6 km
0	A. 24 km	B. 36 km		E
	C. 36 km ²	D. 24 km ²		6 km
4.	A rectangle its lengt	th is 8 cm and its width i		(49)
		NAME OF THE PARTY		Cairo 24] [Giza - 6 th October 22]
	A . 32	B . 12	C . 24	D. 64
5.	Area of rectangle of	length 8 cm and width !	5 cm equals ————	cm² (El-Dakahlia 22)
	A. 3	B. 13	C . 26	D. 40
6.	A rectangle of lengtl	n 20 cm and width 10 cn	n, then its area equals	cm²
	47 47 7574 N 957 M			El-Monofia – Sers El-Layyan 23)
	A. $2 \times 20 + 2 \times 10$	B. 20 + 10	C . 60	D . 200
7.	A rectangle of length	n 9 cm, width 6 cm, then	its area = o	cm² [El-Monofia – Quesna 23]
0	A. 54	B. 30	C. 45	D. 15
8.	The area of a rectang	le with 4 cm long and 3 c	m wide equals	— cm ² [Luxor 24]
0	A. 12	B. 16	C. 10	D. 20
	#01-07 TF-07	EUTHARY MARKET		
9.	A square whose side	length is 5 cm, then its	s area = cm	2 [Giza 24] [Alex. 24]
0	A. 21	B. 25	C. 12	D. 10
0	The area of the squar	re whose side length is	4 cm equals	² (6 : 24)

C. 24

B. 30

D. 36

Unknown Dimensions

Learn 1

Use the area formulas to calculate the unknown dimension

First: The rectangle

Amal made a rectangular flower garden with an area of 35 square meters and its length is 7 meters.

How long is its width?

 $A = l \times w$

Use the formula to find the unknown width [w].

Area of a rectangle = length \times width

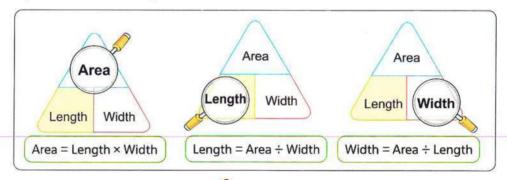
7 m

Area = $35 \,\mathrm{m}^2$

$$w = A \div l$$

So, the width of the garden is 5 meters.

 $w = 35 \div 7 = 5 \text{ m}$



Second: The square

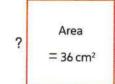
Remember

A square is of area 36 cm².

Area of a square = side length \times side length

What is its side length?

Use the formula to find the unknown side length.



$$A = s \times s$$

 $s = 6 \text{ cm} [because 6 \times 6 = 36]$

So, the side length is 6 cm.

Look for a number if multiplied by itself gives the area.

Notes for parents:

· In this lesson, your child will apply area and perimeter formulas to solve for an unknown dimension in a rectangle or a square.



Learn 2

Use the perimeter formulas to calculate the unknown dimension

Perimeter

 $= 36 \, cm$

?

First: The rectangle

A rectangular piece of paper has a perimeter

28 cm and width 6 cm.

How long is its length?



Remember

- Perimeter of a rectangle = $(2 \times length) + (2 \times width)$
- Half of perimeter = length + width = perimeter ÷ 2
- Use the formula to find the unknown length [l].

$$P = 2 \times [l + w]$$

- Half of perimeter = $28 \div 2 = 14$
- Length = half of perimeter width
- Length = 14 6 = 8 cm

So, the length is 8 cm.

Second: The square

A square is of perimeter 36 cm.

What is its side length?



Remember *

Perimeter of a square = side length \times 4

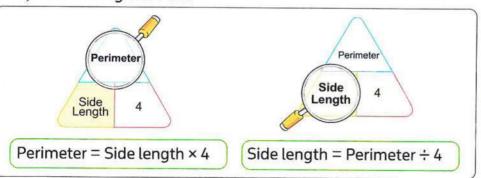
Use the formula to find the unknown side length [s].

$$P = s \times 4$$

$$36 = s \times 4$$

$$s = 36 \div 4 = 9 \text{ cm}$$

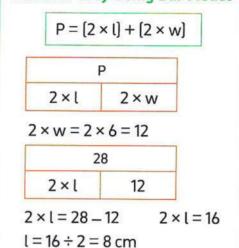
So, the side length is 9 cm.



?

Perimeter = 28 cm 6 cm

Another Way Using Bar Model-





Ask your child questions as: Which number if multiplied by itself you get 16, 25, 36, 49, ...?

Conclusion

Conclusion

In a square

s = side length, P = perimeter, A = area

In a rectangle

l = length, w = width, P = perimeter, A = area

$$A = I \times w$$

$$P = 2 \times [l + w]$$

$$\bullet l = [P \div 2] - w$$

$$\bullet w = A \div l$$

•
$$V = (P + 2) - W$$

• $W = (P + 2) - U$

$$P = s \times 4$$

s is a number if multiplied by itself gives the area.

$$s = P \div 4$$

Example 1

- a. The area of a rectangle is 28 cm² If its width equals 4 cm, find its length and its perimeter.
- b. A square is of area 16 m². Find its side length and its perimeter.

Solution [V



- **a.** $A = 28 \text{ cm}^2$ W = 4 cm l = ?
 - $l = A \div w = 28 \div 4 = 7 \text{ cm}$
 - $\bullet P = 2 \times [l + w]$

$$= 2 \times [7 + 4] = 2 \times 11 = 22 \text{ cm}$$

- **b.** $A = 16 \text{ m}^2 \text{ s} = ?$
 - $s = 4 \text{ m} [because } 4 \times 4 = 16]$
 - $P = s \times 4 = 4 \times 4 = 16 \text{ m}$

Example 2

- a. The perimeter of a rectangle is 20 m. If its length equals 6 m, find its width and its area.
- b. A square is of perimeter 32 cm. Find its side length and its area.

Solution V



a. $P = 20 \, \text{m}$ l=6 w=?

$$P \div 2 = 20 \div 2 = 10 \text{ m}$$

•
$$w = [P \div 2] - l = 10 - 6 = 4 m$$

• A = $1 \times w = 6 \times 4 = 24 \text{ m}^2$

- **b.** P = 32 cm s = ?
 - $s = P \div 4 = 32 \div 4 = 8 \text{ cm}$
 - A = $s \times s = 8 \times 8 = 64 \text{ cm}^2$

check your understanding

- 1. If the area of a rectangle is 35 cm² and its length equals 7 cm, find its width.
- 2. A square is of area 25 cm², find its side length and its perimeter.
- 3. If the perimeter of a rectangle is 18 cm and its width equals 3 cm, find its length and its area.
- 4. A square is of perimeter 40m. Find its side length.

Notes for parents:

Revise with your child time table 4. Practise him/her how he/she can divide by 4.

Exercise on lesson 3

Unknown Dimensions

REMEMBER

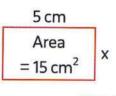
-	UND	T D	074	Atte
-	1 I N 1 1 1	200	-	
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O APPLY



- From the school book
- 1. Find the unknown side length based on the area given of each rectangle.

a.

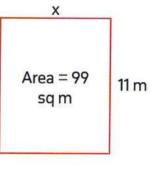


[Alex. 24]



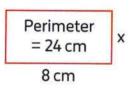
10 units Area = 50 X sq units

C.

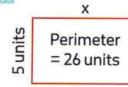


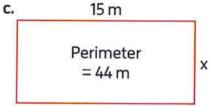
2. Find the unknown side length based on the perimeter given of each rectangle.

a.



b. 📖



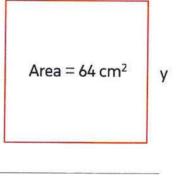


3. Find the unknown side length based on the area given of each square.

a.

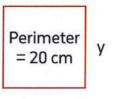
b.

C.



4. Find the unknown side length based on the perimeter given of each square.

a.



[Alex. 24]

Perimeter

Perimeter
= 44 m

5. Complete each of the following.

[El-Behiera - Hosh Essa 23]

- **b.** A square its perimeter equals 24 cm, then the side length = ____ cm [Kafr El-Sheikh 24]
- c. The length of the side of a square whose perimeter is 28 cm is ——— cm [Giza Awseem 23]
- e. The perimeter of a square is 36 cm, then the length of its side is _____ cm [Aswan Kom Ombo 22]
- f. A square its area is 25 m², then its side length is cm [El-Menia 24]
- g. A square is of area 49 km², then its side length is —————

[Cairo - El-Kobba 22]

i. A square its perimeter is 12 cm, then its area is _____ cm

[Alex. 24]

j. If the area of a rectangle is 30 cm^2 and its length is 6 cm, then its width is –

Giza 24

- k. The area of a rectangle is 42 km², and its width is 6 km, then its length is —
- ${f l}.$ The area of a rectangle is 45 ${f m}^2$, and its length is 9 ${f m}$, then its perimeter is -
- m. If the perimeter of a rectangle is 26 cm, and its width is 4 cm, then its length is —
- n. A rectangle of perimeter 32 m, and its length is 9 m, then its area is

6. Complete the following table of rectangles.

Length	Width	Area	Perimeter
a . 5 cm	10 cm		
b. ———	5 m	10 m ²	
c. 9 km		72 km²	
d. 6 dm		-	22 dm
e. ———	2 mm		18 mm

7. Complete the following table of squares.

Side length	Area	Perimeter	
a. 9 m			
b. ———	64 cm ²		
C. ———	5 -1	24 mm	

- 8. Ali sketched a rectangular painting with an area of 28 cm², the width of his painting is 4 cm Find its perimeter.
- 9. Tahani is building a square picture frame for her father. The picture she has to frame has an area of 49 square centimeters. What is the width and the length of her frame?
- **10.** Emad is building a rectangular garden with 26 m of fencing. What is the length and the area of it if its width is 6 m?
- 11. Mai walked once around the squared playground. She covered a distance of 40 m. What is the area of this playground?
- 12. A rectangle is 6 meters wide. The length is 2 meters more than its width. What is the area and perimeter of the rectangle?

Challenge

Mathew has two pictures, both with an area of 36 cm². One is a rectangle with length 9 cm, and the other is a square. Which has the greater perimeter?

Multiple Choice Questions

Choose the correct answer.

1.	Length of a rectangle	2.	If the area of a rectan	gle is	s 35 cm ² and	its	
•			0	length is 7 cm, then	ts w	idth =	_
				(Be	ni Su	ef 24] [El-Menia	23]
	A. Area ÷ length	B. Area ÷ width		A. 4 cm	B.	5 cm	
	C. Length × width	D. Area × width		C. 6 cm	D.	7 cm	
3.	If the area of rectangle	e is 48 cm² and its	4.	A square whose area	is 36	km²,then it	S
•	width is 6 cm, then its	length		side length is ———	— kr	m	
	= cm	(Ismailia 24)			Alex.	- First Montaza	23]
	A. 42	B. 8		A. 4	В.	5	
	C. 18	D. 288		C. 6	D.	9	
5.	The side length of a squ perimeter is 28 cm is —		6.	The perimeter of a so			
	A. 7	B. 14		A . 4	В.	1,600	
	C. 5	D. 4		C. 160	D.	10	
7.	A rectangle with perin	neter 22 cm and	8.	The value of y is ———		У	
0	its width = 4 cm, then	its lentgh = ———	_	A. 4 cm			1
		[Giza 24]		B . 6 cm	_		
	A. 4 cm	B. 8 cm		C. 10 cm	A	rea = 16 cm ²	У
	C. 7 cm	D. 18 cm		D. 8 cm			
9.	A rectangle with area 1 width 3 cm. What is its		10.	A square with area 1 r What is its perimeter			
	A. 8 cm	B. 15 cm		A. 1m	В.	2 m	
	C. 16 cm	D. 16 cm ²		C. 3 m	D.	4 m	

11. Nahed wants to put a ribbon border around a blanket she is making. The width of the blanket is 3 meters. The perimeter of the blanket is 14 meters. How long is the length of the blanket?

[Alexandria - Borg El-Arab 22]

- A. 17 meters
- B. 11 meters
- C. 8 meters
- D. 4 meters

4

Complex Shapes



Learn

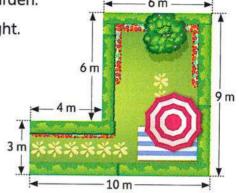
How to find perimeter and area of complex figures ?

Andy wants to put a fence around his garden.

The space he will use is shown at the right.

How much fence should he buy?

What is the area of his garden?



Find the perimeter

Add the lengths of the sides.

Perimeter = 10 + 3 + 4 + 6 + 6 + 9 = 38 m

He should buy 38 meters of fence.

Find the area

There are many ways to calculate the area.

Step			Step 2	Step 3
Sep	parate t	he figure	Calculate the area of	Add both areas to find
	a recta l a squa		each figure.	the area of the whole figure.
		6 m	Area of the rectangle A A = l × w	30 + 36 = 66 sq m
	6 m	В	= 10 × 3 = 30 sq m	The area of the garden is 66 square
3m		Area of the square B	meters.	
	1	0 m	A=s×s =6×6=36 sq m	

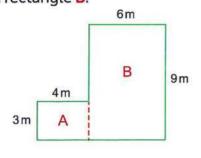
Notes for parents:

 In this lesson, your child will learn and apply strategies for calculating the area and perimeter of complex shapes. Your child will use a variety of strategies to break shapes down into squares and rectangles to calculate their measurements.

Another Way to find area

Step 1

Separate the figure into a rectangle **A** and a rectangle **B**.



Step 2

Calculate the area of each figure.

Area of the rectangle A

Area =
$$l \times w$$

= $4 \times 3 = 12 \text{ sq m}$

Area of the rectangle B

Area =
$$l \times w$$

= $9 \times 6 = 54 \text{ sq m}$

Step 3

Add both areas to find the area of the whole figure.

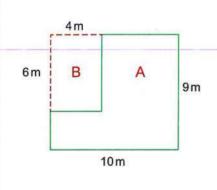
$$12 + 54 = 66 \text{ sq m}$$

The area of the garden is 66 square meters.

Another Way to find area

Step 1

Complete the figure as a big rectangle A and a small rectangle B.



Step 2

Calculate the area of each figure.

Area of the rectangle A

$$A = l \times w$$

= 10 × 9 = 90 sq m

Area of the rectangle B

$$A = l \times w$$
$$= 6 \times 4 = 24 \text{ sq m}$$

Step 3

Subtract both areas to find the area of the required figure.

$$90 - 24 = 66 \text{ sq m}$$

The area of the garden is 66 square meters.

Note

The area of a complex figure does not change when divided in different ways.



Notes for parents:

• Make sure that your child understand the area of a complex figure does not change when he/she calculate in different ways.

Example 1

Calculate the perimeter and area of the figure.

Solution [?



First you should find the length of the unknown sides x and v

$$x = 23 - 13 = 10 \text{ m}$$

$$y = 18 - 6 = 12 \text{ m}$$

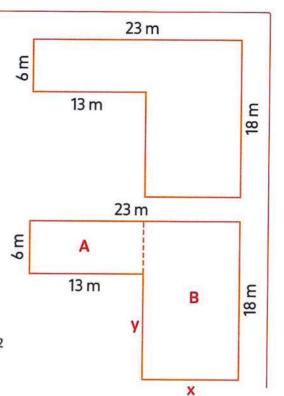
The perimeter = 23 + 18 + 10 + 12 + 13 + 6 = 82 m

The area = Area of section A + Area of section B

$$= [13 \times 6] + [18 \times 10]$$

$$= (10 + 3) \times 6 + 180$$

$$= (10 \times 6) + (3 \times 6) + 180 = 60 + 18 + 180 = 258 \text{ m}^2$$



Example 2

Combine these two simple shapes to form a complex shape.

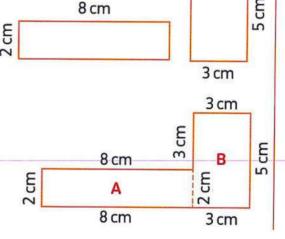
Sketch your shape, labeling the sides.

Then calculate the perimeter and the area of the complex shape.

Solution 🕎



- The perimeter = 8 + 3 + 3 + 5 + 3 + 8 + 2 = 32 cm
- The area = Area of section A + Area of section B $= [8 \times 2] + [5 \times 3] = 16 + 15 = 31 \text{ cm}^2$



Check your understanding

Find the perimeter and the area of the complex figure.

9 m E 7 m X 5m y

· When forming a complex shape out of simple shapes, the perimeter of this complex shape may be equal different results according to how you form this complex shape, but the area of the complex shape does not change.

Exercise 20 on lesson 4

Complex Shapes

	REMEMBER	• UNDERSTAND • A	PPLY 👶 PROBLEM SOLVING		From the school book
1.	Calculat	te the area and the	perimeter of each complex	shape. Sh	ow your work.
0	a.		b. 🕮 24 m	c.	
		7 m 1 m 3 m 3 m	13 m	18 E	8 cm 1 cm
	d. 🕮	5 cm E 2 cm 3 cm E 2 cm	e. 🛄 1m E 3m T 10 m	f.	4 cm 4 cm 4 cm 5 cm [Kafr El-Sheikh 24]
2.	Find the	area of the oppos	ite figure.		El-Beheira 24)
3.	Find the	area of the oppos	ite figure.	6 cm	[Alex Al-Agamy 23] 2 cm 4 cm
7.0					5 cm
4.	A = P =			11 cm	6 cm (Ismailia 23)
	Chall	enge		L	12 cm
5.	Combine	these two simple	shapes into a complex shap	e.	10
O	Sketch y	our shape, labelin	g the sides. Then, calculate	E	10 cm & &
	the area	and perimeter for	the complex shape.	76	3 cm
					5 0111

Multiple Choice Questions

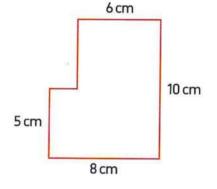
Choose the correct answer.

- **1.** What is the perimeter of the figure?
 - A. 10 cm
 - B. 12 cm
 - C. 13 cm
 - **D.** 15 cm
- 1cm 3cm
- 2. What is the area of the figure?

- 3. What is the area of the figure?
 - A. 54 m²
 - **B.** 32 m²
 - C. 32 cm²
 - D. 54 cm²
- 10 m E m
- 4. What is the perimeter of the figure?
 - **A.** 70 m

D. 87 cm²

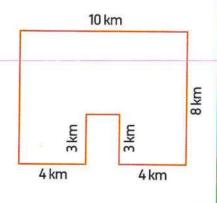
- B. 36 m
- C. 36 cm
- **D.** 70 cm



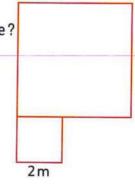
5. What is the area of the figure?



- B. 42 km
- C. 42 m
- **D.** 74 km²

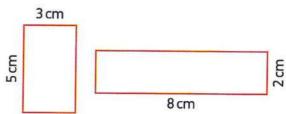


- 6. Two squares are joined to make a figure. What is the perimeter of the figure?
 - **A.** 7 m
 - **B.** 10 m
 - C. 24 m
 - **D.** 35 m



5m

- 7. If you combine the two rectangles to make a complex figure, what is the area of the resulted figure?
 - A. 18 cm²
 - **B.** 31 cm²
 - C. 36 cm²
 - **D.** 40 cm²



Unit Four Assessment



Choose the correct answer.

1. The perimeter of the square = _____ where s is its side length.

[Port Said 24]

- A. s×4
- B. sxs
- C. s×3
- D. s + 4
- 2. A rectangle its length is (l) and its width is (w), what is its perimeter? [Giza Awseem 23]

- A. I+w
- B. L×w
- C. $2 \times [l+w]$
- D. $[2 \times l] + w$
- 3. A square of side length 2 cm, its perimeter = ____ cm
 - B. 6

C. 4

- D. 8
- 4. The perimeter of rectangle whose length is 8 cm and width is 4 cm equals —

[El-Monofia 24]

[Alex. 24]

A. 2

B. 12

C. 24

- D. 35
- 5. A rectangle is of width 3 cm and its length is 5 cm, then its area equals cm²

[El-Monofia 24]

A. 16

B. 20

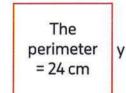
C. 15

D. 35

6. In the opposite figure:

The value of y is —

- A. 4 cm
- **B.** 5 cm
- C. 6 cm
- D. 7 cm



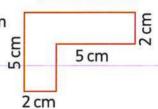
6 cm

- 7. The perimeter of the opposite complex figure equals cm
 - A. 14

B. 21

C. 19

D. 24



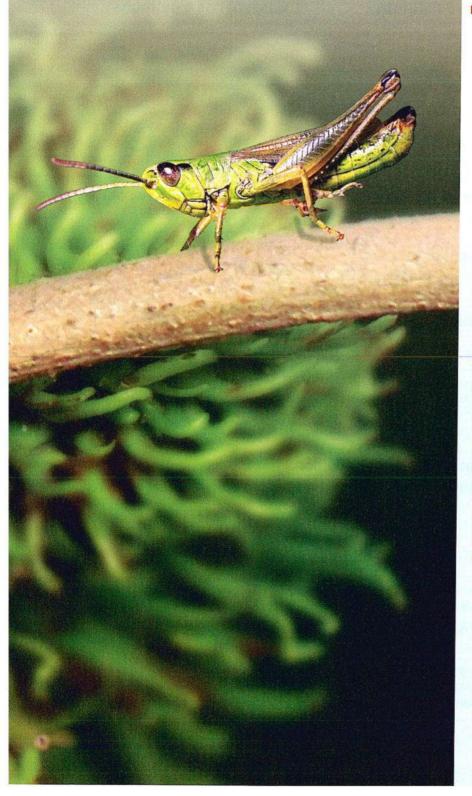
2. Complete the following.

- 1. A rectangle of length 7 cm and width 4 cm, then its perimeter = cm [Beni Suef 24]
- 3. The side length of a square = its perimeter ÷
- 4. The perimeter of the rectangle = ----+
- 5. A square of side length 5 units, then its perimeter = ____ units [Cairo 23]
- 6. The area of the rectangle with 3 cm wide and 9 cm long equals ——— cm²

Mathematical Operations and THEME TWO Algebraic Thinking Multiplication UNIT 5 as a Relationship ▶ Concept 1: Multiplicative Comparisons ▶ Concept 2: Properties and Patterns of Multiplication

CONCEPT

Multiplicative Comparisons



▶ Lesson 1

Multiplicative Comparison

Learning Objectives:

- Students will define multiplicative comparison.
- Students will model multiplicative comparison problems.

▶ Lessons 2&3

Creating Multiplicative Comparison Equations Solving Multiplicative Comparison Equations

Learning Objectives:

- Students will create equations to represent multiplicative comparison problems.
- Students will use letters to represent unknown quantities in equations.
- Students will create and solve multiplicative comparison equations.

Fast Fact

An adult grasshopper can jump10 times its length straight into the air and 20 times its length horizontally without using its wings. That is, if a grasshopper is 5 centimeters long, it can jump a distance of 1 meter.

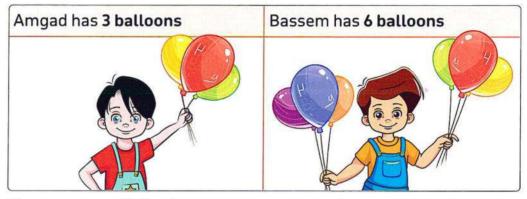
Multiplicative Comparison



What is multiplicative comparison?

Multiplicative comparison means comparing two things or sets that need multiplication.

For Example: In a birthday party,



You can use multiplication as a way to compare between what they have as follows:

	Tape diagram	Multiplicative comparison statement	Multiplication equation	
	Amgad:	Danasa has Audas assessed		1
	3 balloons	Bassem has twice as many balloons as Amgad has.		
	Bassem:	Or 6 is two times the number 3	6=2×3	
	3 balloons 3 balloons			



Remember

Multiplication is repeated addition.

So, you can rewrite a multiplication equation as repeated addition equation.

Hint_

6 = 2 × 3 means 6 is two times the number 3 3 3 Or 6 is three times the number 2 2 2 2

Notes for parents:

 Make sure your child understands that the "tapes" in the tape diagram represent equal groups. When constructing a tape diagram, each tape should represent the same quantity.



Example 1

Complete the multiplicative comparison statements. Use tape diagram or multiplication facts to compare.

- a. Compare 15 and 5. 15 is times the number 5.
- b. Compare 50 and 10. 50 is _____ times the number 10.

Solution [V]

- a. $3 = 3 = 3 \times 5$ b. $5 = 3 \times 5$ b. $5 = 3 \times 5$

Example 2

Rewrite each equation using multiplication.

a. 5+5+5=15

b. 3+3+3+3+3+3+3=21

Solution [V]

a. $3 \times 5 = 15$

b. $7 \times 3 = 21$

Example 3

Fill in the blanks to complete the multiplicative comparison statement for each tape diagram.

- 8 8 8 8 8
 - is times the number 8.
- - ____is _____ times the number 5.

Solution [V]



a. 48 is 6 times the number 8.

b. 40 is 8 times the number 5.

check your understanding

Complete the table. Write a comparison statement or a multiplication equation.

Comparison Statement	Multiplication Equation
21 days is 3 times as many as 7 days	
	36 = 9 × 4
30 fish is 5 times as many as 6 fish.	

[·] Children often confuse multiplicative comparison with additive comparison. For example, instead of multiplying by 4 to find a number 4 times the number 20, they might add 4.

Exercise

21

on lesson 1

Multiplicative Comparison

REMEMBER

UNDERSTAND

O APPLY

PROBLEM SOLVING

From the school book

1. Complete each of the following.

[Alex. 23]

(Giza 24)

[Cairo 24]

2. Rewrite each equation using multiplication.

[Giza 24]

(Ismaillia 23)

i. Multiplicative equation of
$$9+9+9+9+9+9=54$$
 is ______

Use tape diagram or multiplication facts to compare the numbers.

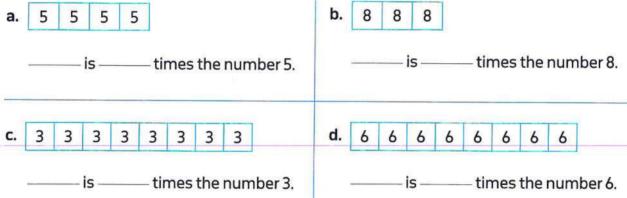
15 is — times the number 3.

28 is — times the number 7.

27 is ——— times the number 9.

10 is — times the number 2.

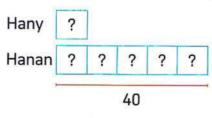
			onit 3 Concept 1		
e. Compare 12 and 3.	12 is ———	times the number	er 3.		
f. Compare 18 and 6.	18 is ———	times the number	er 6.		
g. Compare 24 and 6.	24 is ———	times the numb	er 6.		
h. Compare 35 and 7.	35 is ———	times the numb	er 7.		
i. 45 equals 5 times ————	-		[El-Menia 24]		
j. 18 is 6 times as many as ——	[Cairo 24]				
k. The number ———is 7	[Alex. 24]				
L. The number 36 is 4 times as many as the number ————					
m. The number 36 is 9 times as	many as the nu	mber ————	[Alex. 24]		
n. 28 is ———times the ne	[El-Monofia - Sadat City 23]				
o. 12 is 6 times the number ———					
Fill in the blanks to complete the multiplicative comparison statement for each tape diagram.					



Challenge

5. Hanan has 40 photos. She has 5 times as many photos as Hany.

How many photos does Hany have?





Multiple Choice Questions

Choose the correct answer.

[Alex. 24]

2. 27 is ——— times of number 9 (Ismailia 24)

A. 3

B. 24

B. 18

C. 30

D. 8

C. 4

A. 3

D. 243

3. 45 is times the number 5.

[El-Menia 24] [Giza 23] [Sharkia 22]

4. 56 is times the number 7

[El-Monofia 24]

A. 9

B. 6

A. 5

B. 6

C. 5

D. 40

C. 7

D. 8

The number — — equals 6 times 4.

[Giza 23]

6. The number 40 equals 5 times the

number ——— [El-Monofia 24] (Souhag 23)

The number 15 equals 3 times the number

A. 10

B. 2

A. 4

B. 5

C. 24

D. 12

C. 6

D. 8

The number 42 is 6 times the number —

[Alex. 24] [Giza 23]

[El-Menia 23]

A. 7

B. 9

A. 4

B. 5

C. 8

D. 5

C. 6

D. 7

18 is equal to 6 times the number —

[Aswan 23]

10. 3 times the number 7 is — [El-Menia 24] [El-Monofia 24]

A. 2

B. 3

A. 7

B. 14

C. 6

D. 9

C. 21

D. 28

11. 5 times the number 3 is —

12. 10 times the number 430 is ______

14. The multiplication equation of

5+5+5+5=20 is ——

[Cairo 24]

[Cairo - Heliopolis 23] [El-Kalyoubia 22] A. 430

B. 4,300

A. 10 C. 20 **B.** 15 **D**. 25

C. 43,00

D. 430,000

13. The multiplicative comparison statement

for | 7 - is 3 times the number 7 [El-Monofia 24]

A. $2 \times 10 = 20$

B. $4 \times 5 = 20$

A. 37 C. 24 B. 21

D. 14

C. $20 \times 1 = 20$

D. 10 + 10 = 20

- Creating Multiplicative Comparison Equations
- Solving Multiplicative Comparison Equations

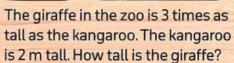
Learn

During Emad's visit to the Zoo, he read this information.

Can you help him to calculate the tall of the giraffe?

Read and Understand

What do you know?



- The kangaroo is 2 m tall.
- The giraffe is 3 time as tall as the kangaroo

Find how tall is the giraffe.



What are you trying to find?

What strategy will you use?

Strategy: Write a multiplicative comparison equation

- Use a letter to represent the unknown.
 Let the tall of the giraffe be x.
- 2. The giraffe is 3 times as tall as the kangaroo means, x is 3 times 2

Kangaroo's tall

Giraffe's tall

Comparison bar model

- 3. Write an equation: $x = 3 \times 2$
- 4. Solve the equation: x = 6

So, the giraffe is 6 m tall.

Notes for parents:

• Common Error : Your child may incorrectly place the unknown in an equation. For example, if your child is asked to write 12 is 3 times the number a , he/she may write $12 \times 3 = a$, instead of $12 = 3 \times a$ or $3 \times a = 12$



Example 1

Write an equation based on the comparison statement.

Use a letter to represent the unknown.

- a. 3 times the number 5 is
- b. 12 is 6 times as many as

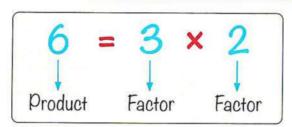


 \mathbf{a} . $3 \times 5 = \mathbf{a}$

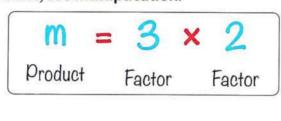
b. $12 = 6 \times m$

How to solve multiplication comparison equation?

You know that

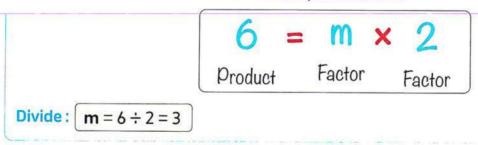


- Solving an equation means to find the value of the unknown that makes the equation true.
- 1. If the unknown is the product, use multiplication.



Multiply:

2. If the unknown is one of the two factors, use division.



Example 2

Write an equation for each of the following comparisons and then solve it.

- a. What number is 3 times the number 7?
- b. 24 is 4 times a number. What is this number?
- c. 12 is 3 times a number. What is this number?

Notes for parents:

• It is important to note that the unknown can be in different positions in the equation. Explain that to solve an equation, you find what the unknown number is.

Solution []

a. Equation: $3 \times 7 = m$

Answer: m = 21

The number is 21

b. Equation: $24 = 4 \times h$

Answer: $h = 24 \div 4 = 6$

The number is 6

c. Equation: $12 = 3 \times a$

Answer: $a = 12 \div 3 = 4$

The number is 4

Example 3

Write an equation for the following comparison and then solve.

Wael ate 5 figs in the evening. His older brother ate 4 times as Wael ate.

How many figs did his brother eat?

Solution [V]

Let the number of figs of his brother be a.

- Equation: $a = 4 \times 5$
- **Answer**: a = 20

His brother ate 20 figs.



Example 4

There were thirty-five adults in line at a movie theater. That is seven times the number of children in another line. How many children were in this line?

Solution [V]



Let the number of children be n. Then, 35 equals 7 times n

- Equation: $35 = 7 \times n$
- Use division to solve: $n = 35 \div 7 = 5$

So, the number of children in the line is 5 children.



Check

your understanding

1. Solve each of the following equations.

a.
$$x = 3 \times 6$$

b.
$$14 = 7 \times n$$

c.
$$6 \times y = 24$$

2. Write an equation to represent the situation below, and then solve.

Farmer Wael has 20 sheep. He has twice the number of sheep as farmer Sameh.

What is the number of sheep of farmer Sameh?

· Explain that the missing number in an equation is represented by a blank, but we can use letters to represent missing numbers.

Exercise 22 on lessons 2&3

► Creating Multiplicative Comparison Equations

► Solving Multiplicative Comparison Equations

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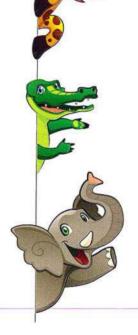
O APPLY

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From the school book

1.	Write an equation based on the comparison statement. Use a letter	to represent the
0	unknown number. You do not have to solve the equations.	

- a. 7 times the number 2 is _____
- b. 2 times the number 7 is _____
- c. 18 is 6 times as many as _____
- d. 4 times the number 3 is ____
- e. 24 is 4 times as many as _____
- f. 4 25 is 5 times as many as _____
- g. 30 is 5 times as many as _____
- h. 7 times as many as 4 is _____
- i. 6 times the number ______ is 48.
- j. 27 is ______times the number 9.
- k. 6 is _____ times the number 2.
- L. 8 times the number ______ is 24.
- m. 5 times the number ______ is 15.



2. Solve each of the following.

a.
$$y = 5 \times 10$$

b.
$$a \times 3 = 15$$

c.
$$7 \times b = 21$$

d.
$$3 \times 4 = x$$

e.
$$5 \times b = 50$$

f.
$$m \times 4 = 16$$

g.
$$z=5\times1$$

h.
$$n \times 2 = 18$$

i.
$$5 \times k = 35$$

- 3. Write an equation for the comparisons. Use a letter to represent the unknown number.

 You do not have to solve the equations.
 - a. A Nadia collected 5 marbles in March. By May she had 4 times as many marbles. How many marbles does Nadia have in May?



b. Hamed had 12 cookies, which was 3 times as many cookies as his brother Ahmed. How many cookies did Ahmed have?



c. It took Aida 21 minutes to walk to school on Monday.
On Tuesday, it took her 7 minutes to ride her bike to school.
How many times as many was riding her bike as walking?



d. Menna ran around the soccer field 4 times. Aya ran around the field twice as many times as Menna. How many times did Aya run around the field?



e. Rana has 6 mangoes. Her brother Sherif has 18.
How many times of mangoes does Sherif have?



f. A restaurant sold eight times as many salads as they sold steaks. If they sold four steaks, how many salads did they sell?



g. A pet store sold two cats. They sold six times as many dogs as they sold cats. How many dogs did they sell?



- 4. Write an equation for each of the following comparisons, and then solve it.
 - a. What number is 5 times the number 6?
 - b. 36 is 4 times a number. What is this number?
 - c. Ayman ate 4 figs in the morning. His older brother ate 3 times as many. How many figs did his brother eat? [Giza - 6th October 22]



d. Mona sent twenty-five text messages a day. Esslam sent five a day. How many times as many texts did Mona send than Esslam sent?



e. It takes Wael six oranges to make a small glass of orange juice. He uses eight times as many for a large glass. How many oranges does he use for a large glass?



f. Nora had four times as many Pounds as her sister. Her sister has three Pounds. How much money does Nora have?









How Many Seats? Use the information in the table to compare numbers of seats in different modes of transportation. Then, enter and solve an equation for each comparison.

Means of Transportation	Number of Seats
Bike	1
Motorcycle	2
Car	4
Truck	6
Bus	36
Metro Train	48

a. How many times as many seats are in a truck trian on a motorbike ?		
Equation:	Answer:	
b. How many times as many seats are	e on a bus than in a truck?	
Equation:	Answer:	
c. How many times as many seats are	on the metro train than in a car?	
Equation :	Answer:	-53
d. A metro train can fit how many time	es as many people as a truck?	
Equation : ———————	Answer:	-
e. A bus has how many times as many	y seats as a car?	
Equation : ———————	Answer:	
Challenge		

6. Bassem sold 9 chocolate bars. Marwan sold three times as many as Bassem. Esslam sold

9 fewer than Marwan. How many bars did Esslam sell?

Multiple Choice Questions

Choose the correct answer.

- A. 4
- **B**. 3

C. 5

D. 6

2. If
$$6 \times b = 42$$
, then $b = _____$ [Beni Suef 24]

A. 8

B. 5

C. 6

D. 7

A. 6

- **B.** 5
- C. 10
- D. 12

- 4. If A × 12 = 36, then A = _____ (Cairo 24)

- A. 2
- **B**. 3 C. 4
 - **D.** 5

- A. 130
- **B**. 3
- C. 23
- **D.** 1,300
- There are 4 bicycles on a road, and 14 times as many cars as bicycles. How many cars are on the road? (Suez 22)
 - A. 46
- B. 14
- C. 56
- D. 18

is_____

- **A.** $3 \times 7 = A$
- **B.** 7 3 = A
- C. 3+7=A
- **D.** $7 \div 3 = A$
- 8. The equation based on the comparison statement «45 is a times the number 9»
 - A. 45 = 9 a
- **B.** $45 = a \times 9$
- C. 45 = a + 9
- **D.** 45 = 9 a

- A. 28
- **B**. 36

C. 7

D. 8

- 10. Noha sent 18 text messages a day. Ali sent 3 a day. How many times as many texts did Noha send as Ali?
 - **A.** 5

B. 4

C. 3

D. 6

A. 3

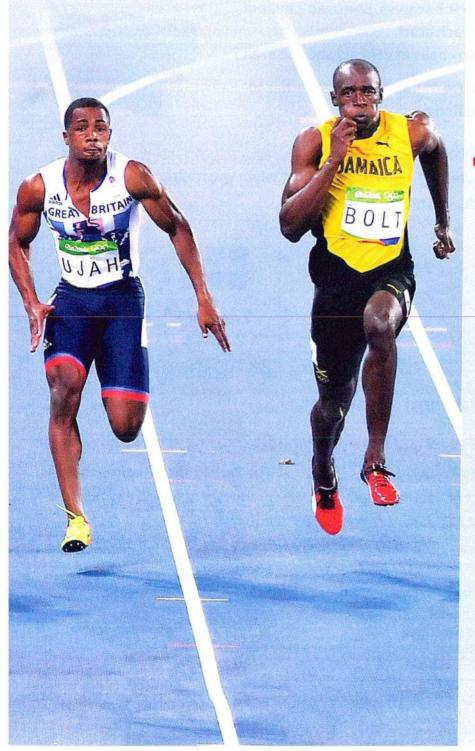
B. 10

- C. 300
- **D.** 3,000

- A. 2 + a = 8
- B. $2 \times a = 8$
- C. $2 \times 8 = a$
- D. 8 + 2 = a

CONCEPT 2

Properties and Patterns of Multiplication



Lessons 4&5

Commutative Property of Multiplication Identity Property and the Zero Property

Learning Objectives:

- Students will explain the Commutative Property of Multiplication.
- Students will apply the Commutative Property of Multiplication to solve problems.
- Students will apply the Identity Property of Multiplication to solve problems.
- Students will apply the Zero Property of Multiplication to solve problems.
- Students will identify patterns that occur when multiplying by 10,100, and 1,000.

▶ Lessons 6&7

Associative Property of Multiplication Applying Patterns in Multiplication

Learning Objectives:

- Students will explain the Associative Property of Multiplication.
- Students will apply the Associative Property of Multiplication to solve problems.
- Students will apply decomposing and the Associative Property of Multiplication to solve equations with multiples of 10,100, or 1,000.

Fast Fact

The fastest man in the world is Usain Bolt. He can run about 44 kilometers per hour for short distances. One of the fastest cars in the world in 2017 was driven to an average speed 10 times faster than Usain Bolt.

How fast can this car move?

Lessons

4&5

- Commutative Property of Multiplication
- ▶ Identity Property and the Zero Property



Learn 1 Multiplication properties

Multiplication properties are rules for multiplication that are always true. In this lesson, you will learn three properties of multiplication.

- Commutative Property.
- Identity Property.
- Zero Property.

Commutative Property of Multiplication

Natalie knit 3 scarves. She used 2 balls of yarn for each scarf.

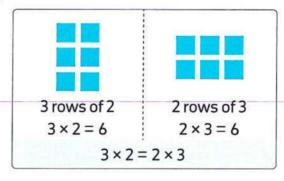
How many balls of yarn did she use in all?

You can use multiplication properties to help you find products.



Multiply 3 × 2

Commutative Property states that when you multiply two factors in any order the product is the same.



So, Natalie used 6 balls of yarn.

Identity Property of Multiplication

The Identity Property states that the product of 1 and any number equals that number.

For Example:

$$\cdot 1 \times 27 = 27$$

$$\cdot 548 \times 1 = 548$$

3 Zero Property of Multiplication

The Zero Property states that the product of zero and any number equals 0.

For Example:

$$•4 \times 0 = 0$$

$$\cdot 0 \times 13 = 0$$

•
$$217 \times 0 = 0$$

Notes for parents:

· Using multiplication properties makes finding products easier.

Example 1

Complete each of the following.

Solution [V]



a. 8 e. 15

- b. 7
- f. 0

- c. 9
- g. 0

d. 2

h. 1

Example 2

Mr. Hany has 12 pens.

Write an equation using the Commutative Property of Multiplication to describe two ways he can arrange his pens.

Solution [V]



•
$$3 \times 4 = 4 \times 3 = 12$$

$$\cdot 2 \times 6 = 6 \times 2 = 12$$





check your understanding

Find the missing number. Name the property you used.

- a. ×1 = 12
- **b.** $9 \times 1 = 0$
- c. $5 \times 6 = \times 5$
- **d.** $\times 500 = 0$
- e. 1× = 708
- f. $2 \times 10 \times 2$



- · You may wish to ask your child questions such as the following as you observe your child at work:
 - When you multiply by 1, which number is the product?
- When you multiply any number by 0, which number is the product?

Learn 2 Multiplying by 10, 100 and 1,000

You can use a basic fact and a pattern to find the product.

TH	Н	Т	0
			4
		4	0
	4	0	0
4 ,	0	0	0

$$4 \times 1 = 4$$

[Think: Use the basic fact $4 \times 1 = 4$]

$$4 \times 10 = 40$$

 $4 \times 10 = 40$ [Put 1 zero at the end]

$$4 \times 100 = 400$$

 $4 \times 100 = 400$ [Put 2 zeroes at the end]

$$4 \times 1,000 = 4,000$$

 $4 \times 1,000 = 4,000$ [Put 3 zeroes at the end]

Notice the pattern of zeroes.

Example 3

Fill in the blanks below.

Solution [V]



- d. 210
- **q**. 10

- **b.** 200
- e. 500
- h. 10

- **c.** 7,000
- f. 8,000
- i. 50

check your understanding

Complete each of the following.

Notes for parents:

Let your child discover the pattern of zeroes when he/she multiply by 10, 100 and 1,000.

Exercise

on lessons 4&5

Commutative Property of Multiplication

- Identity Property and the Zero Property
- REMEMBER
- O APPLY
- PROBLEM SOLVING

From the school book

1. Apply the Commutative Property of Multiplication to complete each equation.

c.
$$25 \times 52 = 52 \times$$
 [Matrouh 22]

g. If
$$34 \times B = 15 \times 34$$
, then $B =$

d.
$$48 \times 12 = 12 \times$$
 [Souhag 22]

f. If
$$A \times 27 = 27 \times 25$$
, then $A = _____ [Souhag 24]$

2. Apply the Commutative Property of Multiplication to find the unknown value.

f.
$$5 \times 93 = b \times 5$$

Solve each of the following.

g.
$$758 \times 0$$

[Port Said 24]

4. Complete each of the following.

[Alex. 24]

Story Problems

- 5. 🛄 There are 42 people who want to play football. Badr says that you can make 6 teams with 7 people on each team. Salma says you can make 7 teams with 6 people on each team. Who is correct? Use numbers, words, and pictures to explain your thinking.
- 6. Mr. Saleh has 24 beans. Write an equation using the commutative property of multiplication to describe two ways he can arrange his beans.
- 7. Bassem has 20 apples. Write an equation using the commutative property of multiplication to describe two ways he can arrange the apples.



8. Ahmed has 48 toy cars and wants to display them in his room. He wants to arrange them in equal rows and equal columns. How can he display his cars? Draw your solution.



9. Writing About Math Tarek says that 9 × 1,000 equals 900. What would you tell Tarek to help correct his mathematical thinking? Use words, numbers, or pictures to explain your thinking.

Challenge

- 10. Find the value of a and b.
 - **a.** $52 \times a = a \times 73$
 - **b.** $112 \times a = 19 \times b$

Multiple Choice Questions

Choose the correct answer.

- 1. $24 \times 15 = 15 \times 24$ represents the property. [El-Beheira 24] [El-Monofia 24] [Cairo 24]
 - A. associative
 - B. commutative
 - C. identity

A. 300

C. 500

5. 1 × 15 = -

A. 1

C. 15

A. 10

C. 1000

D. distributive

- 2. 17 × 1 = 17 is - property.
 - [El-Menia 24]
 - A. distributive
 - B. associative
 - C. commutative
 - D. multiplicative identity
- 3. $600 \times 3 = 3 \times -$ [Cairo - El Shrouk 23]

[Beni Suef 24]

- **B.** 400
- D. 600

B. 0

D. 16

- 4. $35 \times 0 = -$
 - A. 1
 - C. 0

(Giza 23)

[Cairo - El-Shrouk 23] [Giza 24]

[Cairo - El-Nozha 23]

- B. 34 **D.** 43
- The Multiplicative Identity Element is
 - A. 1

B. 2

C. 3

D. 4

- 7. If $3 \times X = 100 \times 3$, then X = -
 - [Cairo 24]
 - B. 100
 - **D.** 10,000

- A. 8
- B. 4

8. If $a \times 4 = 4 \times 2$, then a = -

C. 2

10. 34 × -

- D. 6
 - [Giza 23]

[Alex. 23]

- 9. If $850 \times m = 850$, then m = -
 - [Ismaillia 23] **B.** 850
- A. 1
- **B.** 10

- = 3.400

- D. 0

- C. 100
- **D.** 1,000

- **11.** 100,000 is - times the number [Ismaillia 23]
 - 10,000 A. 10

C. 1,000

A. 1

C. 2

- **B.** 100
- **D.** 10,000
- 12. 51 × 100 = ---
 - A. 5,100
- **B.** 510
- C. 51,000
- **D**. 0
- 13. Which equation would be best to include in an explanation of the commutative property of multiplication? [El-Monofia 24]
 - **A.** $5 \times 1 = 5$
- **B.** $3 \times 2 = 2 \times 3$
- C. $8 \times 0 = 0$
- **D.** 3+0=3
- 14. Determine which choice best shows the Identity Property of Multiplication.
 - **A.** $0 \times 6 = 0$
- **B.** $1 \times 6 = 6$
- C. $1 \times 6 = 6 \times 1$
- **D.** $2 \times 6 = 6 \times 2$

Lessons

6&7

- ► Associative Property of Multiplication
- ► Applying Patterns in Multiplication



Learn 1 Associative property of multiplication

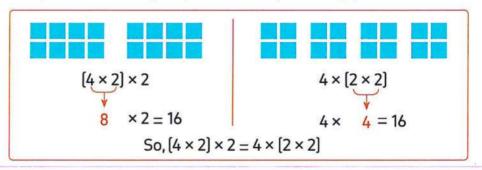
Suppose you make Super Cheesy Sandwiches for 4 people. Each person gets 2 sandwiches. Each sandwich has 2 slices of cheese. How many slices of cheese will you need? Here are some ways to find the product of $4 \times 2 \times 2$.



Associative Property of Multiplication

Associative Property states that when you group factors in different ways, the product is the same.

Use parentheses to group the factors you multiply first.



Example 1

Use the grouping or Associative Property of Multiplication and complete.

a.
$$[6 \times 2] \times 5 = 6 \times [= \times 5]$$

b.
$$(20 \times 10) \times 10 = 20 \times (15 \times 10)$$

c.
$$7 \times [5 \times 2] = [7 \times 1] \times 2$$

Solution [V]

a.
$$[6 \times 2] \times 5 = 6 \times [2 \times 5]$$

b.
$$[20 \times 15] \times 10 = 20 \times [15 \times 10]$$

c.
$$7 \times [5 \times 2] = [7 \times 5] \times 2$$

d.
$$315 \times [16 \times 120] = [315 \times 16] \times 120$$

Notes for parents:

• Your child may forget to multiply by the third factor.

To check, ask your child to group the factors in a different way and multiply again.

Example 2

Solve each problem. Multiply the part in the parentheses first.

a.
$$[3 \times 2] \times 9$$

b.
$$10 \times [5 \times 3]$$

Solution [V]

a.
$$[3 \times 2] \times 9 = 6 \times 9 = 54$$

b.
$$10 \times [5 \times 3] = 10 \times 15 = 150$$

Example 3

Place parentheses to show one way to find the product.

Then show another way to use parentheses to find the product.

a.
$$3 \times 2 \times 5$$

Hint ____

If there are no parentheses, you can choose which pair of numbers to multiply first.



a.
$$3 \times 2 \times 5 = [3 \times 2] \times 5$$

= $6 \times 5 = 30$

Or
$$3 \times 2 \times 5 = 3 \times [2 \times 5]$$

= $3 \times 10 = 30$

b.
$$4 \times 10 \times 2 = [4 \times 10] \times 2$$

$$=40 \times 2 = 80$$

Or
$$4 \times 10 \times 2 = 4 \times [10 \times 2]$$

$$= 4 \times 20 = 80$$

Example 4

Apply the Commutative and the Associative Properties of Multiplication to solve the problems.

a. 3×7×2

b. 4×8×2

Hint ____

It is helpful to use Commutative Property to multiply the small factors first.

Solution [V]



a.
$$3 \times 7 \times 2 = 3 \times 2 \times 7$$
 [Commutative Property]
= $[3 \times 2] \times 7$ [Associative Property]
= $6 \times 7 = 42$

b.
$$4 \times 8 \times 2 = 8 \times 4 \times 2$$
 [Commutative Property]
= $8 \times [4 \times 2]$ [Associative Property]
= $8 \times 8 = 64$



check your understanding

Find each product.

[·] After your child has reviewed the Commutative Property of Multiplication, ask him/her to predict whether it would make a difference which two factors they multiplied first in $8 \times 4 \times 2$.

Decomposing and Associative Property of Multiplication Learn 2

- You have learned before how to multiply by multiples of 10, 100 and 1,000 using a basic fact and a pattern of zeroes.
- Here you will use decomposing and Associative Property to solve problems.

Example 5

Find the product: 8×30

Solution [V]



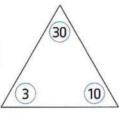
$$8 \times 30 = 8 \times [3 \times 10]$$

$$3 \times 10 = [8 \times 3] \times 10$$

= 24 × 10
= 240

[Decompose 30 to 3×10]

(Associative Property)



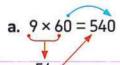


Example 6

Solve using a strategy you prefer.

a.
$$9 \times 60$$

Solution [V]





c.
$$4,000 \times 6$$

= $[1,000 \times 4] \times 6$
= $1,000 \times [4 \times 6]$
= $1,000 \times 24$
= $24,000$

check your understanding

Use decomposing and Associative Property to find each product.

a.
$$4 \times 40 = -$$

c.
$$2 \times 8,000 = -$$

Notes for parents:

• The product has the same number of zeroes as the number of zeroes in the factor with zeroes unless the basic fact has a zero.

· Let your child solve using strategy he/she prefers.

Exercise 24

on lessons 6&7

► Associative Property of Multiplication

Applying Patterns in Multiplication

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1. Write the missing number.

a.
$$[25 \times 5] \times 6 = 25 \times [\times 6]$$
 [Giza 24]

c.
$$2 \times [6 \times 5] = [2 \times 6] \times$$

e.
$$5 \times 14 \times 2 = [5 \times] \times 14$$

b.
$$5 \times [10 \times 2] = [5 \times] \times 2$$

d.
$$[3 \times 9] \times 5 = \times [9 \times 5]$$

f.
$$3 \times 6 \times 2 = 6 \times [\times 2]$$

2. Solve each problem. Multiply the part in the parentheses first. Show your work.

a.
$$[2 \times 3] \times 4 =$$

b.
$$[5 \times 2] \times 3 =$$

d.
$$5 \times [2 \times 3] =$$

f.
$$9 \times [2 \times 3] =$$

3. Apply the properties of multiplication to solve the problems.

4. Place parentheses to show one way to find the product. Then show one other way to use parentheses to find the product.

5. Write how many to make up each number as the example.

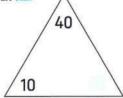
- **Example**: 40 = 4 Tens
- a. 4 30 = ---- Tens
- c. 160 = ____ Tens
- e. 120 = ----Tens
- **q.** 600 = Hundreds
- i. 2,000 = _____ Thousands

- **b.** 90 = Tens
- **d.** 140 = Tens
- f. 110 = ____ Tens
- h. 5,000 = ____ Thousands
- i. 90 = _____Tens

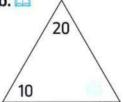
[Alex. - El Montazah 23]

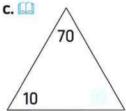
6. Write the missing factor in the box.

a. 📖

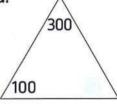


b. 📖

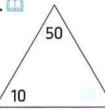


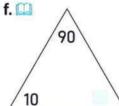


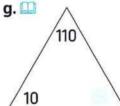
d.

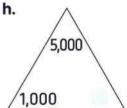


e. 🕮









7. Multiplying by multiples 10, 100 and 1,000 Use decomposing and the Associative Property of Multiplication to solve each problem.

- a. 1 7 × 20 = ----
- **b.** 49 5 × 50 = _____
- c. 4 × 700 = _____
- d. 🛄 3 × 4,000 = _____
- e. 9 × 500 = _____

- 8. Solve using a strategy you prefer.
 - a. 200 × 3 = (Cairo El-Nozha 23)

 - c. 600 × 3 = (Cairo El-Shrouk 23)
 - d. 6×90 = _____
 - e. 7,000 × 6 =
 - f. 600 × 4 =
 - g. 4,000 × 5 = ----
- 9. Aisha bought 3 packs of water bottles. Each pack had 3 rows of 4 water bottles. How many water bottles did Aisha buy?



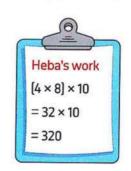
10. Hany works 20 hours a week. If he makes L.E. 6 per hour. How much does Hany make in two weeks?

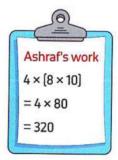


- 11. Angy runs 2 kilometers a day. If she runs five days a week.

 How many kilometers does she run in 10 weeks?
- 12. Review each student's work. Then, answer the questions.

How is Heba's and Ashraf's work the same? How are they different? Which student's strategy do you prefer? Why?





Lessons 6 & 7 | • REMEMBER • UNDERSTAND • APPLY & PROBLEM SOLVING

13. Writing about Math

Use what you have learned about the Associative Property of Multiplication to help Farouk solve the problem. Use words and numbers to explain your thinking.

Farouk is trying to solve the problem $2 \times 7 \times 4$

He starts by solving 2×7 and gets 14. Place parentheses to show how Farouk started this problem. $2 \times 7 \times 4$

Next, he writes 14×4 but he does not know how to solve that multiplication problem. Can you show Farouk another way to solve the problem?

Challenge

14. Marwan's mom gives him L.E. 5 every day for lunch at school. If he only pays L.E. 3 for lunch, how much will he save in 10 weeks if he goes to school five days weekly?



Choose the correct answer.

1. Which of the following represents the Associative Property?

[El-Beheira 23]

A. $11 \times 129 = 129 \times 11$

B. $2 \times [5 \times 3] = [2 \times 5] \times 3$

C. $0 \times 17 = 0$

- D. $[2 \times L] + W$
- 2. The Associative Property applied on $7 \times [8 \times 10]$ is

[El-Menia 24]

- **A.** $15 \times 10 = 150$
- **B.** $7 \times 80 = 560$
- **C.** $7 \times 50 = 780$
- **D.** $7 \times 18 = 126$

3. 253 + (226 + 142) = (253 + _____) + 142

[Alexandria 23]

- **A.** 253
- **B.** 226

- C. 142
- D. 368

4. 2 × (5 × 4) = (2 × ____) × 4

[Kafr El-Sheikh 24] [Souhag 23]

A. 2

B. 0

C. 5

D. 4

- **5.** 2×3×4= _____
 - A. 234
- B. 9

C. 24

D. 10

- **6.** $[300 \times 7] \times 0 = -$
 - A. 2,100
- **B.** 3,070
- C. zero
- **D.** 307

7. 5,000 × 2 = ____

- 8. The missing factor in the box
- **A.** 1,000 **B.** 2Thousands
- equals ———

C 10 Hundrode

- **A.** 7,000
- **B.** 70

- C. 10 Hundreds
- D. 10 Thousands
- **C**. 700
- **D.** 7 10

9. 8,000 = _____ Tens

[Giza 23]

10. 700 = — Hundreds [Cairo - El-Nozha 23]

- **A.** 800
- **B.** 80,000
- A. 7

B. 700

C. 80

D. 8

C. 70

- **D.** 7,000
- 11. Which equation would be best to include in an explanation of the Associative Property
 - of Multiplication?

[Alexandria - El-Montaza 22]

A. $[9 \times 12] \times 0 = 0$

B. $[3 \times 7] \times 2 = 3 \times [7 \times 2]$

C. $[4 \times 6] \times 1 = 4 \times 6$

D. $[11 \times 8] \times 9 = 9 \times [11 \times 8]$

Unit Five Assessment



Choose the correct answer.

1.	7 ×	5 =	k×7.	then	k=		_
١.	/ ^	$\supset -$	K ~ /,	unen	к –	-	-

[Kafr El-Sheikh 24] [Giza 24]

- A. 5
- B. 7

C. 2

D. 35

2. 375 × ____ = 37,500

- **A.** 10
- **B.** 100

C. 1,000

D. 10,000

3. 125 × 0 = ___

[Luxor 24]

- A. 25
- B. 205

C. Zero

D. 250

4. Which equation would be the best to include in an explanation of the Commutative

Property of Multiplication?

- **A.** $3 \times 5 = 5 \times 3$
- C. $[6 \times 4] \times 2 = 6 \times [4 \times 2]$

- B. $4 \times 16 = [4 \times 11] + [4 \times 5]$
- **D.** $5 \times 1 = 5$

5. Which equation would be the best to include in an explanation of the Associative

Property of Multiplication?

- **A.** $3 \times 1 = 3$
- C. $6 \times [2 \times 4] = [6 \times 2] \times 4$

- **B.** $9 \times 6 = 6 \times 9$
- **D.** $5 \times 16 = (5 \times 11) + (5 \times 5)$

6. $2+2+2+2+2+2=2\times$

[Cairo 24]

- A. 2
- **B.** 3

C. 5

D. 6

7. The bar model 3 3 3

- 3
- 3

represents that the number ——— is 5 times

number 3

[Giza - Abo El-Nomros 23]

- A. 8
- **B.** 15

C. 20

D. 30

2. Complete.

[Cairo - El-Kobba 22]

2. The multiplicative equation of 8 + 8 + 8 + 8 + 8 = 40 is ——

3. The Multiplicative Identify Element is ————

[Alexandria - Montaza 22]

4. 3,200 = — Hundreds

5. $4 \times 7 = 7 \times 4$ Property of Multiplication.

[Port Said 22]

6. If P × 1 = 63, then P = _____

[El-Monofia 24]

7. If $1,000 \times Z = 3,000$, then Z =

[Cairo - El-Nozha 23]

8. 7 times as the number 5 =

(Cairo - El-Shrouk 23)

3. Choose the correct answer.

1. The number 15 equals 5 times the number —

[Cairo - Rod El-Farag 23]

- A. 4
- **B.** 5

C. 3

D. 15

2. If X × 10 = 100 then X = _____

(Souhag 23)

- **A.** 10
- **B.** 5

C. 15

D. 20

3. 0 × 216 = —

[Alex. 23]

- **A.** 216
- B. 2,160

C. 1

D. 0

4. 13 × 24 = 24 × 13 represents — Property.

(Giza 23)

A. Associative

B. Commutative

C. Multiplicative Identity

- D. Distribution
- 5. What is the number that is 10 times the number 18?

[El-Menia 23]

- A. 28
- **B.** 1,800

C. 180

D. 18

6. If a × 4 = 4 × 2, then a = _____

[Giza 23]

- A. 8
- B. 4

C. 2

D. 6

- 7. $2 \times [7 \times 4] = [2 \times -] \times 4$
 - A. 2
- B. 7

C. 4

D. 28

Answer the following.

- 2. Hany bought 3 packs of water bottles. Each pack had 3 rows of 4 water bottles.
 How many water bottles did Hany buy?
 [Giza 23]
- 3. Apply the properties of multiplication to solve the problems.
 - a. $3 \times 2 \times 4$

b. 5×7×2

- 4. Find the unknown value.
 - a. $7 \times 5{,}000 = 7 \times 5 \times m$

b. $[3 \times 7] \times 6 = 3 \times [m \times 6]$

c. $9 \times 4 = 4 \times m$

d. $248 \times m = zero$

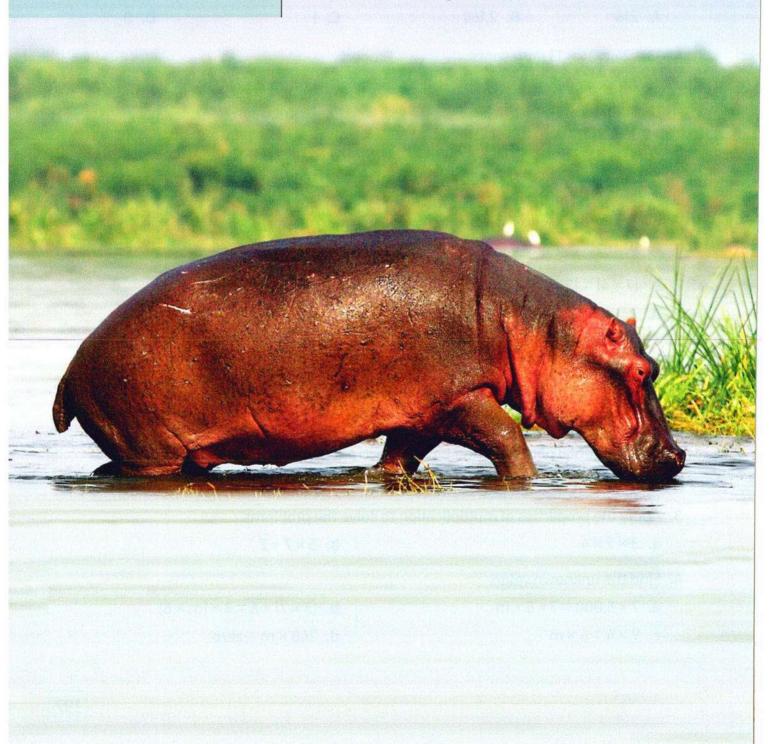


Mathematical Operations and Algebraic Thinking

UNIT 6

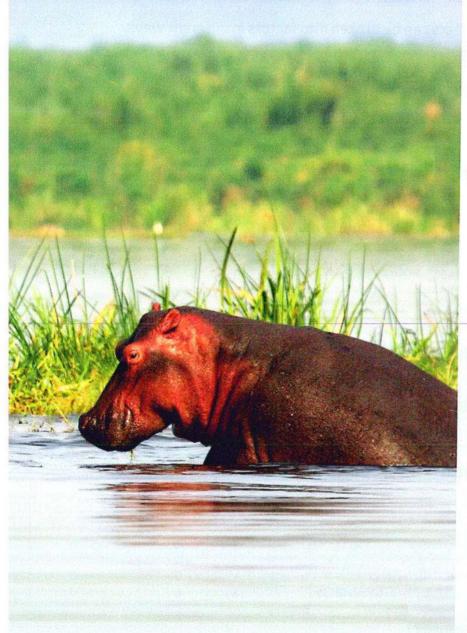
Factors and Multiples

- ► Concept 1: Understanding Factors
- ► Concept 2 : Understanding Multiples



CONCEPT

Understanding Factors



▶ Lessons 1&2

Identifying Factors of Whole Numbers Prime and Composite Numbers

Learning Objectives:

- Students will define factors of a whole number.
- Students will find all factors of a given number between 0 and 100.
- Students will explain patterns they observe in numbers that have 2,5 or 10 as factors.
- Students will find all factors of a given number between 0 and 100.
- Students will explain patterns they observe in numbers that have 3,6 or 9 as factors.
- Students will determine if a number is prime or composite.

▶ Lesson 3

Greatest Common Factor [G.C.F]

Learning Objectives:

- Students will find common factors between two whole numbers.
- Students will identify the greatest common factor between two whole numbers.

Fast Fact

Hippos are considered the second largest land animal on Earth (first place goes to the elephant!). Males measures 1 m and a half tall, and can weigh up 3,200 kg. That's as much as three small cars!

Lessons

1&2

- ▶ Identifying Factors of Whole Numbers
- ▶ Prime and Composite Numbers

12 x1 = 12 6 x 2 = 12 4 x 3 = 12 1 x 12 = 12 2 x 6 3 x 4

200

Learn 1 Identify factors of whole numbers

• A factor is a number multiplied by another number to get a product.

▶ Examples:

$$2 \times 9 = 18$$
 $\downarrow \qquad \qquad \downarrow$

factor × factor = Product

· Many numbers can be broken into factors in different ways.

For Example:

So, the factors of 12 are 1, 2, 3, 4, 6 and 12.

There are 6 factors or 3 factor pairs.

You can show the factors of 12 in many ways as:



Factor	T-chart
1	12
2	6
3	4

Example 1

Find all factors of 36. and create a factor rainbow , and factor T-chart.

Solution [?



$$36 = 1 \times 36 = 2 \times 18 = 3 \times 12 = 4 \times 9 = 6 \times 6$$

So, the factors of 36 are 1, 2, 3, 4, 6, 9, 12, 18 and 36.

Factor rainbow - 1 2 3 4 6 6 9 12 18 36

1	36
2	18
3	12
4	9
6	6

Notes for parents:

- · Let your child find the factors of 15.
- · Help your child show the factors by factor rainbow and factor T-chart.

How can you find all the factors of a number?

Helpfull Hint:

1	is a factor of any number. Every number will have a factor pair of 1 and	
2	is a factor, if the digit in the ones place is even (The ones digit is : 0, 2, 4, 6 or 8).	8,24,48
3	is a factor, if the sum of the digits is a number that exists when skip counting by 3s.	9,18,24
4	is a factor, if the number is existing when skip counting by 4s.	8 ,12 ,16
5	is a factor, if the ones digit is 0 or 5.	5,15,20
6	is a factor, if the number is even and has a factor 3.	12,18,24
9 -	is a factor, if the sum of the digits is a number that exists when skip counting by 9s.	9,27,45
10	is a factor, if the ones digit is 0.	20,50,100

Example 2

Answer the following questions.

- a. Is 3 a factor of 29? Explain how do you know.
- b. Is 9 a factor of 54? Explain how do you know.
- c. Is 6 a factor of 48? Explain how do you know.

Solution [V]



- a. No, because 2 + 9 = 11 and 11 is a number does not exist when skip counting by 3s.
- **b.** Yes, because 5 + 4 = 9 and 9 is a number existing when skip counting by 9s.
- c. Yes, because 48 is even and 4 + 8 = 12 and 12 is a number existing when skip counting by 3s.

[•] Ask your child more questions of factors such as : Is 2 a factor of 14 ? Is 5 a factor of 61 ? and more questions, then let your child explain how did he/she know.

Example 3

Find all the factors of 48.

Solution [V]



To find all the factors of a number, make an organized list of multiplication sentences. Write sentences until your factors start to repeat. (Ignore any sentences that won't work). Then list the factors. Find all the factors of 48.

 $48 = 1 \times 48$ [1 is a factor of every whole number]

2 × 24 [48 is even]

 3×16 [4+8=12 and 12 is existing when skip counting by 3s.]

4 × 12 [48 is existing when skip counting by 4s.]

-5×

6 × 8 [48 is even, and 3 is a factor]

7×

8×6 [- STOP! Repeat of 6×8].

The factors of 48 are 1, 2, 3, 4, 6, 8, 12, 16, 24 and 48. There are 5 factor pairs.

check your understanding

1. Find the factors of 15 and create a factor rainbow and factor T-chart.

2. Choose the correct answer.

a. 5 is a factor of -

A. 50

B. 51

C. 52

D. 53

b. Which number is a factor of 20?

A. 6

B. 10

C. 30

D. 40

c. The number 11 has — — factors.

A. 2

B. 3

C. 4

D. 5

d. The number 32 has factors.

A. 4

B. 6

C. 8

D. 10

e. Which is the factor of every number?

A. 0

B. 1

C. 2

D. 10

Notes for parents:

Ask your child to find all the factors of 72 by using the helpful hint to check all the factors.

Learn 2 Prime and composite numbers

You can use the factors of a number to tell if it is a prime number or a composite number.

A Prime number is a whole number that has exactly two different factors, 1 and itself.

Example:

5 is an example of a prime number. It has only two different factors, 1 and 5.

More examples of prime numbers

Number	Factors
17	1,17
29	1,29
31	1,31

► A Composite number is a whole number that has more than two factors.

▶ Example:

6 is an example of a composite number. Its factors are 1, 2, 3 and 6.

▶ More examples of composite numbers

Number	Factors
15	1,3,5,15
18	1,2,3,6,9,18
25	1,5,25

Remarks

- The number 1 is neither prime nor composite because it has only ONE factor.
- 2 is the smallest prime number.
- All prime numbers are odd numbers except 2.
- The following table shows the prime numbers which lie between 1 and 100:

2	3	5	7	11	13	17	19	23
29	31	37	41	43	47	53	59	61
	67	71	73	79	83	89	97	

 Use the 100-chart to check the prime and the composite numbers and let your child identify how he/she knew the difference between them.

Example 4

Check each of the following numbers if it is a prime or a composite number.

a. 9

b. 13

c. 19

Solution [V]



a. $9 = 1 \times 9$

$$=3\times3$$

9 has more than two factors [1, 3, 9].

So, 9 is a composite number.

b. $13 = 1 \times 13$

13 has exactly two different factors [1,13].

So, 13 is a prime number.

c. $19 = 1 \times 19$

19 has exactly two different factors [1,19].

So, 19 is a prime number.

Check your understanding

Choose the correct answer.

- is a prime number.
 - A. 9 B. 16
- C. 19

D. 21

- is a prime number.
 - A. 1

C. 7

D. 12

- A. 1
- isn't a prime number.

C. 5

D. 7

- d. —
- is a composite number.

- **B**. 3

C. 13

D. 15

- isn't a composite number.
 - A. 11

A. 1

B. 12

C. 14

D. 20

- f. The smallest prime number is -

C. 2

D. 3

- g. The smallest odd prime number is
 - **A.** 0

B. 1

C. 2

D. 3

- h. The prime number between 44 and 50 is
 - A. 45

B. 46

C. 47

D. 49

Notes for parents:

· Give your child a group of numbers and ask him/her to identify the prime numbers and the composite numbers.

Exercise on lessons 1&2

- ▶ Identifying Factors of Whole Numbers
- ▶ Prime and Composite Numbers

-		_			-	-	n
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ROBLEM SOLVING

From the school book

First: Exercises on factors

1. Determine if the given number has 2 as a factor, 5 as a factor, or 10 as a factor. Circle yes or no.

	Number	Is 2 a factor?		Is 5 a factor?		Is 10 a factor?	
a.	26	Yes	No	Yes	No	Yes	No
b.	70	Yes	No	Yes	No	Yes	No
c.	15	Yes	No	Yes	No	Yes	No
d.	17	Yes	No	Yes	No	Yes	No

7					
2	Highlight	or circle th	a factore of	f the numbers	lictor
4.	HIGHLIGHT	or circle tri	e ractors of	r the numbers	ustea.

a. 15: c. 12:

f. 20:

- 2
 - 5 10
 - 10
- 2 5
- e. 16:
- 2
 - 2
- 3

- 5
- 8

b. 30: 2

d. 25: 2

9 10 10

- a. 7 ______14
- c. 2
- e. 6 _______96
- g. 4———88
- i. 19 ————

10

10

- f. 1_____ 67
- h. 9 _____
- j. 8_____

4. Answer the following problems.

- a. Is 2 a factor of 23? How do you know?
- b. Is 5 a factor of 35? How do you know?
- c. Is 6 a factor of 84? How do you know?
- d. Is 3 a factor of 53? How do you know?

	e. Is 4 a factor of 32? How do you know	?
	f. Is 7 a factor of 48 ? How do you know	?
	g. 🕮 Is 9 a factor of 63 ? How do you kn	ow?
5.	• 🕮 Find all the factors of the following	and create a factor rainbow and a factor T-chart.
	a. 20. There are 3 factor pairs. Factors are:	Factor rainbow—Factor T-chart—
*	b. 40. There are 4 factor pairs. Factors are:	Factor rainbow Factor T-chart
	c. 36. There are 5 factor pairs. Factors are:	Factor rainbow—Factor T-chart—
6.	List all the factors of each number. You	may create a factor rainbow or a factor T-chart.
	a. 6[Alex. 2	b. 10 [El-Monofia 24]
	c. 38	d. 25
	e. 48 ———————————————————————————————————	- f. 21
	g. 19 —	— h. 35————
	: 12	1 /0

Fac	ctor Riddles. Guess	the number.						
a.	The number is an even number between 1 and 10. Some of its factors include 1, 2 and 3. What number is it?							
b.	☐ The number is 1, 2, 4, 7 and 14. W	an even number betwo	een 20 and 30. Some o	of its factors include				
	The number is What number is it	CSI	er than 40. It has 10 as	a factor. It is less than 60.				
		wo-digit number. It has ctor pairs is 4 and 6. Wh		digit is less than its ones				
e.		The number is a two-digit number. It has 5 as a factor. Its tens digit is less than its ones digit. One of its factor pairs is 5 and 7. What number is it?						
1								
		on prime and compo	osite numbers					
	nplete with "Prime 2 is ————	b. 4 is —	c. 29 is———	d. 3 is				
e.	5 is ———	f. 6 is ———	g. 7 is	– h. 11 is———				
i. 1	3 is	j. 12 is ———	k. 16 is	l. 23 is				
Cor	mplete.							
a. '	The smallest prim	e number is ————		[Kafr El-Sheikh 24] [Giza 23]				
b.	The prime number	rhas ——— factors	i.	[Souhag 23]				
с. Т	The prime number	has two different facto	ors which are ———	— and ———				
d.	The only even prin	ne number is ————	(Beni Suef 2	24] [Giza – Abo El-Nomros 23]				
e. ⁻	The 2-digit prime r	number which is less th	nan 13 is ———					
f. T	he prime numbers	s between 60 and 70 ar	re ———					
g. T	The number 37 has	factors and	it is a ——— numb	per.				
h ·	The number 15 is a	——— number bec	ause it has	factors.				

10. List all the factors of each number. Then, write if the number is prime or composite.

- **a.** 15 ______ [Port Said 24]
- c. 🛄 23
- g. 🚨 21
- i. 50 ————
- k. 🛄 31————

- b. 24 _____ [El-Beheira 24] [Alex. West 22]

- h. 12 _____ [El-Menia 24] [Cairo El-Salam 23]
- j. 22_____
- l. 🕮 44

11. Prime Numbers less than 100. Identify all of the prime numbers less than 100. Use skip counting and factor patterns to help you eliminate composite numbers.

- 1. Circle 2 and cross out all other numbers that you say when you skip count by 2s.
- 2. Circle 3 and cross out all other numbers that you say when you skip count by 3s.
- 3. Circle 5 and cross out all other numbers that you say when you skip count by 5s (some are already crossed out).
- 4. Circle 7 and cross out all other numbers that you say when you skip count by 7s.
- 5. Circle all numbers that remain except for 1. When you are finished, the circled numbers are prime and the crossed out numbers are composite.

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

12. What's the Error? Ashraf listed the first five prime numbers as 2, 3, 7, 11 and 13. Describe his error. Write the correct answer.

Challenge

- 13. Write all prime numbers which are between 46 and 62
- 14. Write all composite numbers which are between 5 and 23

Multiple Choice Questions

Choose the correct answer.

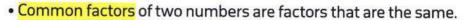
1. Which of those numbers is prime?				2.	2. Which of the following is a composit				
				[Alex. 24]		number	r?		[El-Menia 24]
	A . 22		B . 35			A. 11		B. 13	
	C. 21		D. 19			C. 16		D. 17	
3.	The comp	osite nur	mber has –		4.	The sm	allest prime	e number is	5
	factors.			[Cairo 23]			(El-Menia	24) [Port Sai	d 24] (Alex. 24)
	A. 1		B. mor	e than 2		A . 0		B . 1	
	C. 2		D. 0			C . 2		D . 3	
5.	The small	est odd p	rime numb	per	6.	The prin	ne number	just after 1	5
0	is	_	(El-Menia	24] [Cairo 23]		is			[Alex. 23]
	A . 0	B. 1	C. 2	D. 3		A. 16	B. 17	C . 18	D. 12
7.	All the numbers 11, 13, 15, 17 are				8.	The prir	me number	has —	
•	prime num	numbers except the number ———			factors only.				
				(Souhag 24)		(Souha	g 24] [El-Kaly	oubia 23] [E	l-Dakahlia 22)
	A. 11	B. 13	C. 17	D. 15		A. 0	B. 2	C . 1	D. 4
9.	Which of the following is not a prime				10.	3 is a fac	ctor of ——		(Cairo 24)
•	number?		(Cairo	- El-Marg 23]	0				
	A. 7	B . 15	C. 19	D. 13		A. 18	B. 20	C. 25	D. 31
11.	The numb	er of fact	ors of 29 is	-	12.	-	is a factor	of 63.	(Ismailia 22)
•	factors.			[Alex. 24]	0	A . 2		B . 5	
	A. 2	B. 3	C. 4	D. 5		C. 7		D. 11	
13.	The numb	er ——	has the	factors	14. The numbers 1, 2, 4, 5, 10, 20 are all				
•	2 and 5.			(Giza 24)	•		of number		[Alex. 24]
	A. 25	B. 15	C . 10	D . 5		A. 40	B. 20	C . 10	D. 5
15.	All factors	of numbe	or 16 org		16	The miss	sing factor i	n the enne	osite $\frac{12}{-\frac{12}{2}}$
	Alliactors	or marries	er lo are —	[Alex. 24]		factor T-	-chart is —		2 6 3 4
A. 1,2,4,8 B. 1,16,2,8				2,8				(E	l Monofia 24)
	C. 1, 2, 4, 8,	16	D . 0,16,	2, 8, 4		A. 3	B. 1	C. 24	D. 0

3

Greatest Common Factor (G.C.F)

Learn

How can you find the greatest common factor for two numbers ?



• The greatest common factor (G.C.F) of two numbers is the greatest number that is a factor of both.

How can you find the greatest common factor (G.C.F) between two numbers or more?

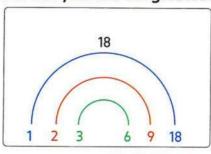
1. Identify the factors of each number.

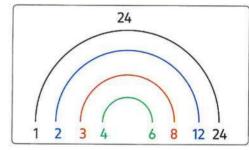
2. Find the common factors for these numbers.

3. Determine the greatest common factor (G.C.F).

For Example:

How can you find the greatest common factor for 18 and 24?





• Factors of 18: 1,2,3,6,9,18

• Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24

• Common factors:1,2,3,6

• The greatest common factor [G.C.F]: 6

Example 1

Find all the common factors and G.C.F of each pair.

a. 12 and 15

b. 16 and 28

c. 7 and 11

Solution 🕎

a. 12:1, 2, 3, 4, 6, 12 15:1, 3, 5, 15

Common factors: 1,3

G.C.F: 3

Factor	s of 12	Factors of 1				
1	12	1	15			
2	6	3	5			
3	4					

Notes for parents:

 Tell your child that common factors and greatest common factor are helpful to solve many problems in life.



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b. 16:11,2,4,8,16 28:1,2,4,7,14,28

Common factors: 1, 2, 4

G.C.F: 4

c. 7:11.7

Common factor: 1

G.C.F:1

Factor	rs of 16	Factors of 28			
1	16	1	28		
2	8	2	14		
4	4	4	7		

Note that:

- 1 is the common factor of all whole numbers.
- · All prime numbers has one common factor that is 1. Such as 7 and 11.

Example 2

For a dinner party, Adam is creating individual servings. He has 28 pieces of fruit and 14 yogurt cups. If he wants each serving to be identical with no food left over, what is the greatest number of servings Adam can create? How many pieces of fruit and how many yogurt cups will be in each serving?

Solution [V]

Factors of 28:1,2,4,7,14,28

Factors of 14:1,2,7,14

Common factors: 1, 2, 7, 14

G.C.F: 14

The greatest number of individual servings is 14 of 2 pieces of fruit and one yogurt cup in each individual serving.

Check your understanding

Find all the common factors and G.C.F of each pair.

a. 9 and 12

b. 25 and 15

· Give your child two numbers and let him/her find the common factors and the GCF of them such as (5 and 17), (4 and 12).

Exercise 26 on lesson 3

Greatest Common Factor (G.C.F)

● RE	MEMBER	UNDERSTAND	O APPLY	👶 PROBLEM SOLVING		From the school book
	List the		h number.	Highlight or circle	the common fac	tors of each pair of
	a. 16 ar	nd 20				
	Fact	ors of 16 :				
	Fact	ors of 20 : ——				
ı	o. 🕮 1	8 and 4				
	Fact	ors of 18 :				
	Fact	ors of 4 : ——				
(. 🕮 2	0 and 30				
	Fact	ors of 20 : ——				
	Fact	ors of 30 : ——				
c	i. 🕮 17	7 and 22				
	Facto	ors of 17 : ——				
	Facto	ors of 22 ; ——				
e	. 📖 21	and 35				
	Facto	ors of 21:				
	Facto	ors of 35 :				
f.	36	and 42				
	Facto	ors of 36 : ——				
	Facto	ors of 42 : ——				
2. 1.	ist the	common facto	rs of the	given numbers.		
			000			
b	. 10 an	d 35				
C	. 17 and	d 34				
d	. 18 an	d 24				

e. 25 and 30 ———————————————————————————————————	
f. 22 and 44	
3. Find the common factors and the greatest com	nmon factor (G.C.F) of :
a. 4 and 6	
Factors of 4:	
Factors of 6:	
Common factors :	
b. 10 and 30	
Factors of 10:	
Factors of 30 :	
Common factors :	GCF:
c. 12 and 18	[Giza 24] (Sharkia 22)
Factors of 12:	
Factors of 18 :	e e
Common factors :	GCF:
d. 6 and 12	[Giza - Abo El-Nomros 23]
Factors of 6 are :	
Factors of 12 are :	
Common factors :	
e. 10 and 15	[Souhag 23]
Factors of 10:	
Factors of 15:	
Common factors :	
4. Find the G.C.F of the given numbers.	
a. 30 and 45	[Alex. 24] [Ismailia 22]

l. 12 and 15

b. 12 and 18	[Kafr El-Sheikh 24] [El-Menia 24] [Giza 23] [Cairo 23]
c. 40 and 50	
d. 20 and 30	[El-Monofia 24] [Alex. 24]
e. 10 and 24	(Port Said 24)
f. 35 and 25	[Cairo 24] [Monofia - Sers El Layan 23] [Monofia - Shebin El-Koum 22]
g. 24 and 40	[Port Said 24]
h. 33 and 11	
i. 20 and 12	[Cairo 23]
j. 18 and 30	[Cairo - El-Marg 23]
k. 24 and 18	[Giza 23]

5. Use what you know about factors and common factors to solve each problem.

a. Sylvia has 21 pencils and 14 erasers. She wants to put them in groups. What is the greatest number of groups that can be made so that each group has the same number of items? How many pencils will be in each group? How many erasers will be in each group?

[Giza 23]

b. There are 40 girls and 32 boys who want to participate in lap on teams. If each team must have the same number of girls and the same number of boys, what is the greatest number of teams that can participate? How many girls will be in each team? How many boys will be in each team?

	be made so that each group has the same number of children? How many children will be in each group of boys? How many children will be in each group of girls?
d.	Mohab is making flower arrangements. He has 7 roses and 14 daisies. If Mohab wants to make all the arrangements identical and have no flowers left over, what is the greatest number of flower arrangements that he can make? How many roses and how many daisies will be in each flower arrangement?
e.	Eslam has 60 blue marbles and 24 red marbles. If he wants to place them in identical groups without any marbles left over, what is the greatest number of groups Eslam can make? How many blue marbles and how many red marbles will be in each group?
1	Amira and her friends are going on a picnic. Amira wants to make snack packs of apples and candy to take on the picnic. She has 24 apples and 36 small bags of candy. What is the greatest number of snack packs Amira can make if each pack must have exactly the same number of apples and exactly the same number of bags of candy with no snacks left over? How many apples will be in each snack pack? How many bags of candy will be in each snack pack?
	nallenge d the G.C.F of 15, 18 and 21.

Multiple Choice Questions

Choose the correct answer.

1	. The common factor o	f all numbers	2. Which of the following are the common				
•	is ——— (Kaly	oubia 23) [El-Menia 24]	factors	of 4 and 6?			
	A . 3	B. 2	A. 1ar	nd 2 B	. 1 and 3		
	C. 1	D. 0	C. 2 ar	nd 3 D	. 3 and 4		
3.	Which of the following factors of 15 and 25?	g are the common	4. 1 and 7 are the common factors of ——— A. 2 and 7 B. 2 and 14				
	A. 1 and 3	B. 1 and 5	C . 7 an	nd 12 D	. 7 and 14		
	C. 1 and 15	D. 1 and 25	100 100 E000000000000000000000000000000				
5.	Which two numbers a of 48 and 54?	6. Which number is the greatest common factor (G.C.F) of 12 and 6? [Cairo - Heliopolis 23]					
	A. 2	B . 6	A . 2	В	. 3		
	C. 8	D . 9	C . 6	D	. 12		
	E. 12	F. 24					
7.	Which number is the g		8. Which number is the greatest common factor of 45 and 60? [Damietta 22]				
	A. 2	B. 5	A. 5	В.	20		
	C. 1	D. 11	C. 15	D.	30		
9.	The greatest common the two numbers: 10,	10. The G.C	.F of 20 and 30 is -				
	is	[Aswan 23]					
	A. 34	B. 22	A . 1	B.	4		
	C. 2	D. 14	C. 5	D.	10		



Lessons 4&5

Identifying Multiples of Whole Numbers Common Multiples

Learning Objectives:

- Students will define multiples of whole numbers.
- Students will identify multiples of whole numbers.
- Students will identify common multiples between two numbers.

▶ Lesson 6

Relationships between Factors and Multiples

Learning Objectives:

- Students will explain the relationship between factors and multiples.
- Students will determine if a number is a factor or a multiple of another number.

Fast Fact

Believe it or not, Koalas can sleep up to 18 hours a day! How many hours do they sleep per week?

Lessons

4&5

- ▶ Identifying Multiples of Whole Numbers
- **▶** Common Multiples

9×2





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Learn 1 Multiples of whole numbers

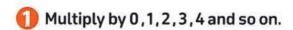
What is a multiple?

A multiple is the product of a given number and another whole number.

- You can find multiples of any number using any of these ways :
- 1 Multiplying by the whole numbers.
- 2 Skip-counting on the number line.
- Skip-counting using 100 Chart.



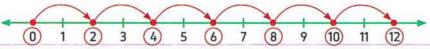
To find the multiples of 2, use any of these ways:



$$2 \times 0 = 0$$
, $2 \times 1 = 2$, $2 \times 2 = 4$, $2 \times 3 = 6$, $2 \times 4 = 8$, and so on.

Then the products 0, 2, 4, 6, 8, ... are called the multiples of 2

Using skip-counting by 2s on the number line.



Then the multiples of 2 are 0, 2, 4, 6, 8, 10, 12 and so on.

Use skip-counting by 2s using 100 Chart.

Then the multiples of 2 (except zero) are

2,4,6,8,10,12 and so on.

Start -

11 12 13 14 15 16 17 18 19 6 21 22 23 24 25 26 27 28 29 3 31 32 33 34 35 36 37 38 39 4 41 42 43 44 45 46 47 48 49 5 51 52 53 54 55 56 57 58 59 6 61 62 63 64 65 66 67 68 69 7 71 72 73 74 75 76 77 78 79 8 81 82 83 84 85 86 87 88 89 9	1	(2)	3	4	5	6	7	(8)	9	(10)
31 32 33 34 35 36 37 38 39 4 41 42 43 44 45 46 47 48 49 5 51 52 53 54 55 56 57 58 59 6 61 62 63 64 65 66 67 68 69 7 71 72 73 74 75 76 77 78 79 8 81 82 83 84 85 86 87 88 89 9	11	12	13	0	15	16)	17	18	19	20
41 42 43 44 45 46 47 48 49 5 51 52 53 54 55 56 57 58 59 6 61 62 63 64 65 66 67 68 69 7 71 72 73 74 75 76 77 78 79 8 81 82 83 84 85 86 87 88 89 9	21	22	23	24	25	26	27	28	29	30
51 52 53 54 55 56 57 58 59 6 61 62 63 64 65 66 67 68 69 7 71 72 73 74 75 76 77 78 79 8 81 82 83 84 85 86 87 88 89 9	31	32	33	34	35	36	37	38	39	40
61 62 63 64 65 66 67 68 69 7 71 72 73 74 75 76 77 78 79 8 81 82 83 84 85 86 87 88 89 9	41	42	43	44	45	46	47	48	49	50
71 72 73 74 75 76 77 78 79 8 81 82 83 84 85 86 87 88 89 9	51	52	53	54	55	56	57	58	59	60
81 82 83 84 85 86 87 88 89 9	61	62	63	64	65	66	67	68	69	70
	71	72	73	74	75	76	77	78	79	80
91 92 93 94 95 96 97 98 99 10	81	82	83	84	85	86	87	88	89	90
	91	92	93	94	95	96	97	98	99	100

Notes for parents:

 Skip counting on the number chart helps your child notice the patterns to help him/her find the multiples more quickly.

Remarks

- Zero is a multiple for any number.
- The multiple of any number not equal to 0 is divisible by this number.

For Example:

 $2 \times 5 = 10$

 \rightarrow 10 is a multiple of both 2 and 5

10 is divisible by 2

10 is divisible by 5



Example 1

Find the multiples of.

a. 4

b. 10

Solution [V]



a.
$$4 \times 0 = 0$$

$$4 \times 1 = 4$$

and so on.

Then:

The multiples of 4 are:

0,4,8,12,... and so on.



b.
$$10 \times 0 = 0$$

$$10 \times 1 = 10$$

$$10 \times 2 = 20$$

$$10 \times 3 = 30$$

and so on.



Then:

The multiples of 10 are:

0,10,20,30,... and so on.



check your understanding

- a. List 4 multiples of 8.
- b. Circle the numbers that are multiples of 3.

12, 17, 6, 22, 18, 27

• Explain that the number of multiples that a number has is endless.

Learn 2 Common Multiples

A common multiple is a multiple of two or more numbers.

Finding common multiples using number chart

Look at the column that starts with 2.

All the numbers in this column are multiples of 2.

• List the multiples of 2 on the table.

Look at the column that starts with 3.

All the numbers in this column are multiples of 3.

• List the multiples of 3 on the table.

These numbers that are on both lists are common multiples of 2 and 3.

• List the common multiples of 2 and 3.

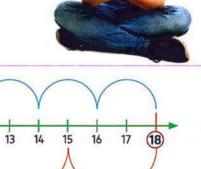
×	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

Finding common multiples using number line

• You can use a number line to find common multiples.

Example:

Use a number line to find common multiples of 2 and 3 $\,$



The common multiples of 2 and 3 are 0, 6, 12, 18,... and so on.

Remark

(12)

Zero is a common multiple for any number.

Notes for parents:

 Ask your child use a number chart to find multiples of a number, ask him/her to use it to find the common multiples of two numbers.

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Example 2

Find the multiples of each of the numbers 4 and 6 up to 50, then find the common multiples between them.

Solution [7]

- The multiples of 4 are : (0), 4, 8, (12), 16, 20, (24), 28, 32, (36), 40, 44, (48)
- The multiples of 6 are: 0, 6, 12, 18, 24, 30, 36, 42, 48
- The common multiples of 4 and 6 are: 0 , 12 , 24 , 36 , 48

Check your understanding

Find the multiples of each of 7 and 3 up to 50, then find the common multiples between them.

Solution [V]

The multiples of 7 are

The multiples of 3 are

The common multiples are



· Listing multiples help your child find common multiples.

Exercise 27 on lessons 4&5

▶ Identifying Multiples of Whole Numbers

- **▶** Common Multiples
- REMEMBER
- UNDERSTAND
- O APPLY
- ROBLEM SOLVING

III From the school book

1. A Skip counting on a number line. Draw a line connecting each number to show skip counting on the number line. Start at 0 each time.

a. Find the multiples of 2



The multiples of 2 are —

b. Find the multiples of 5



The multiples of 5 are

2. Color the multiples. Use the hundreds chart.

a. (L.) Color the multiples of 9

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The multiples of 9 are: ——

b. Color the multiples of 10

	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50
	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70
	71	72	73	74	75	76	77	78	79	80
	81	82	83	84	85	86	87	88	89	90
İ	91	92	93	94	95	96	97	98	99	100

The multiples of 10 are:

3. a. Circle the numbers that are multiples of 6.

7 , 16 , 12 , 6 , 21 , 24 , 18

b. Circle the numbers that are multiples of 3.

6 , 17 , 21 , 15 , 10 , 36 , 29

c. Circle the numbers that are multiples of 8.

6 , 8 , 10 , 16 , 18 , 24 , 30 , 32 , 36

d. Which of the following is NOT a multiple of 4?

4 , 30 , 20 , 44 , 36

e. Which of the following is NOT a multiple of 5?

5 , 31 , 35 , 40 , 15 , 10 , 16

4. a. List 5 multiples of 7.

b. List 5 multiples of 8.

c. List the multiples of 3 up to 20.

d. List the multiples of 5 up to 30.

e. List the multiples of 9 up to 60.

5. Find the missing multiple.

a. 5 , 10 , 15 ,

b. 8, 16, 24,

c. 10, 20, ,40

d. 70,80, ,100

e. 12, 15, , 21

f. 22, ,44,55

g. 36, ,54,63

h. , 14 , 21 , 28

i. , 24 , 30 , 36

6. a. Find the multiples of each of the numbers 2 and 3 up to 20, then find the common multiples between them.

The multiples of 2 are:

The multiples of 3 are:

The common multiples are:

 Find the multiples of each of the numbers 5 and 4 up to 30, then find the common multiples between them.

The multiples of 5 are:

The multiples of 4 are:

The common multiples are:

7. a. Find a commo	on multiple of 4 and 8
--------------------	------------------------

- b. Find a common multiple of 7 and 3.
- c. III Find two common multiple of 6 and 9.
- d. In Find two common multiples of 6 and 8.
- e. In Find two common multiples of 5 and 7.
- f. Find two common multiples of 4 and 7.
- 8. Nagwa plans to visit her grandparents every fourth day in May. Her first visit will be May 4. How many times will she visit during May?
- 9. Writing About Math Tahani takes the bus home from school every day, but it does not take her directly to her house. After the bus drops Tahani off, she must walk the rest of the way home. The bus she takes stops every 4 kilometers as it leaves the school. If Tahani lives 18 km from school, how far does she have to walk home from the bus stop? Draw a picture to represent your thinking.

Challenge

- 10. a. Find two common multiples of 2, 3 and 5.
 - **b.** Find two common multiples of 6,4 and 10.

Multiple Choice Questions

Choose the correct answer.

1.	 The common mu 	ltiple for all nu	mbers	2. 0,8,16,24	are multiples of the
	is	(Giz	a 24] (Cairo 23)	number —	[Cairo 23]
	A. 0	B. 1		A. 0	B. 8
	C. 2	D. 3		C. 16	D . 24
3.	The number 21 is	a multiple of —		4. 30 is a multi	ple of number — [Beheira 23]
550		[Kafr	El-Sheikh 24]	<u> </u>	
	A. 2	B. 3		A . 8	B. 7
	C. 5	D . 9		C . 6	D. 4
5.	25 is a multiple of		[Cairo 23]	6. ———is	a multiple of 5. [Giza 23]
	A. 5	B . 7		A. 55	B . 503
	C. 9	D. 10		C . 326	D. 124
7.	Which of the follow	ing is a multiple	of 8 ?	8. Which is a co	ommon multiple of 5 and 7?
0			[Alex. 23]	•	[Ismailia 24]
	A . 1	B. 2		A. 35	B. 49
	C. 4	D. 16		C. 45	D. 14
					1732 T. 1010
9.	Which of the follow	wing is NOT a n	nultiple	10. Which of the	e following is a common
	of7?		(Luxor 22)	multiple of 3	3 and 4 ?
					[Luxor 24] [Giza 24]
	A . 42	B. 63		A. 12	B. 7
	C . 707	D . 27		C . 1	D. 2
11.	The number 36 is a	common mul	tiple	12. Which is NO	Ta common multiple of 9
0	of———		[Alex. 24]	and 6?	[El-Monofia - Sers El-Layyan 23]
	A. 9 and 5	B. 10 and	2	A. 18	B. 27
	C. 5 and 3	D. 6 and 4		C. 36	D. 42

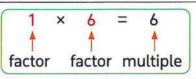
Lesson

Relationships between Factors and Multiples

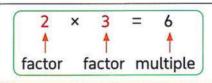
Learn

What is the relation between factors and multiples?

You can use multplication to find the relation between factors and multiples. For Example:



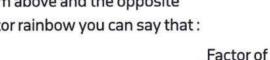
- The numbers 1 and 6 are factors of 6
- The number 6 is a multiple of each of 1 and 6

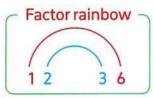


- The numbers 2 and 3 are factors of 6
- The number 6 is a multiple of each of 2 and 3

6

From above and the opposite factor rainbow you can say that:











Multiple of

Example

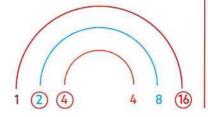
Making connection. Think about the relationships between the numbers 2, 4 and 16. Write at least two sentences describing what you notice.

Solution [V





- 2,4 and 16 are multiples of 2.
- 2,4,16 are factors of 16.
- 16 is a multiple of 2, 4 and 16.



check your understanding

Complete.

- ____ of 24 and a. $3 \times 8 = 24$, then 3 and 8 are — 24 is — of each of 3 and 8.
- b. An even number is a multiple 3 and 4. It lies between 30 and 40, then this number is

Notes for parents:

- · Help your child use a multiplication table to recognize the relation between factors and multiples.
- Ask your child to explain the difference between a factor and a multiple.



226

Exercise 28 on lesson 6

Relationships between Factors and Multiples

	REMEMBER • UNDERSTAND • APPLY & PROBLEM SOLV	ING	From the school book			
1	. Complete the following.					
	a. Write 3 multiples of 5 ————, ————	, —				
	b. Write 3 multiples of 6 — , — , — —	,				
	c. Write 3 factors of 30 ———, ———	,——				
	d. The numbers 1, 3, 9, 27 are factors of —	(EI-	-Beheira – Kafr El-Dawwar 22)			
	e. If $4 \times 9 = 36$, then is a multiple of the two numbers and					
	Also, ——— and ——— are factors o	f the number ———				
	f. If 7 × 3 =, then is a multip	le of the two number	s ——— and ———			
2.	Answer the following questions.					
	a. Is 2 a factor of 12?	b. Is 6 a factor of	24?			
	c. Is 14 a multiple of 7? d. Is 10 a multiple of 2?					
	e. Is 24 a factor of 8?	f. Is 2 a multiple	of 4? ———			
	g. Is 0 a multiple of 9?	h. Is 16 a multiple	of 3? ———			
	i. Is 5 a factor of 25 or a multiple of 25?					
	j. Is 32 a factor of 8 or a multiple of 8?					
	k. Is 1a factor of 9 or a multiple of 9?					
	l. What multiple of 7 is a factor of 7?					
3.	Making Connections. Think about the relation		numbers in each group.			
<u> </u>	Write at least two sentences describing what y					
	a. 📖 3,6 and 12					

- **b.** 4,8,16 and 24 –
- c. 2,4,3,12
- 4. Multiples Riddles. Read each riddle and solve. There may be more than one answer.
 - a. It is a multiple of 3 and 5. It is greater than 20. What number is it?
 - **b.** In the number is an even number. It is a multiple of 4 and 8. It is between 10 and 20. What number is it?
 - c. III The number is an even number. It is a multiple of 3,4 and 6. What number is it?
 - d. An even number between 20 and 30. Some of its factors include 1, 2, 4, 7 and 14. What is it? [Suez 22]

Challenge

5. There is a number between 10 and 20 and it is a multiple of the number 4 and a factor of the number 24. What is this number?



Multiple Choice Questions

Choose the correct answer.

1		The Common facto The Common mult				all the multiples o umbers.	of 2 are —	
	A.	Zero	B. 1		А	. even	В.	odd
	C.	2	D . 10		С	. prime		
3	. Th	ne even number whi	ch is a n	oultiple of	4	is an odd	1 numbe	erthat is
0		4,5 together is		3.5	o a	multiple of 3 and		i ulacis
		60	B . 18	Ç	8	. 7	В.	14
	C.	28	D. 12		17,000	. 21	D.	100000
5.	W	hich of the following	is true	?				
	A.	5 is a multiple of 10			В.	. 10 is a factor of !	5	
	C.	5 is a factor of 10			D.	6 is a multiple o	f4	
6.	WI	hich of the following	is false	?				
	A.	282 is a multiple of	2		B.	0 is a multiple o	f7	
	C.	3 is a factor of 24			D.	8 is a factor of 14	+	
7.	Th	e correct relation be	tween t	he two numbe	ers 6 an	d 18 is ———	(Ca	iro - El-Salam 23)
	A.	6 is a factor of 18			В.	6 is a multiple o	f18	
	C.	18 is a factor of 6			D.	18 is the twice o	f6	
8.	Wh	nich of the following	statem	ents determin	e the re	elation between t	he two	numbers
•		nd 49 is correctly?				Beheira 24) (El-Mono		
	A.	7 is a multiple of 49				7 is a factor of 49		
	C.	49 is a factor of 7			D.	7 equals 9 times	49	
9.	Wh	ich of the following	statem	ents determin	e the re	elation between t	he two r	numbers
•		nd 36 incorrectly?						
	A.	6 is the multiple of 3	6		В.	36 is a factor of 6)	
	C.	6 is a factor of 36			D.	36 equals 5 time	s 6	

Unit Six Assessment



4	Choose	460	COMMON	-
	LHOOSE	the	correct	answer.

1. The prime number between 30 and 35 is —

[Cairo 23]

A. 31

- **B.** 32
- C. 33

D. 34

2. The number 8 has — factors.

[Cairo 23]

A. 2

B. 3

C. 4

D. 5

3. All the factors of 16 are ———

[Cairo 23]

- A. 1,16
- B. 2,4,8 C. 1,2,4,8,16
- D. 4,8,16

4. The number — is a multiple of the number 4

[El-Kalyoubia 23]

A. 3

C. 18

- D. 16
- 5. The number is the common factor of all numbers.

[Giza 23]

A. 1

B. 0

C. 2

D. 3

6. — is not a multiple of 6

[Alex. - El-Montaza 23]

C. 16

D. 24

7. — is a factor of 72

[Aswan 23]

C. 7

D. 11

2. Complete.

1. The common factor for all numbers is ————

(Ismailia 24) (Cairo 23)

- 2. is the common multiple for all numbers.
- [Alex. 24] [El-Monofia Sadat 23]
- 3. The number of factors of a prime number is ————
- [El-Menia Samlout 22]

4. The only even prime number is ————

[El-Sharkia 22]

5. The G.C.F of 15 and 25 is ———

- [Kafr El-Sheikh 24]
- 6. The smallest odd prime number is ————
- [El-Beheira Kafr El-Dawwar 22]
- 7. A number that has only two factors and their sum of 8 is ______ [Aswan Kom Ombo 22]

- 8. The missing factor in the opposite factor rainbow
- 1 2 3 4 () 12

[Luxor 22]

Choose the correct answer.

1. Which of the following is a multiple of 7?

[Giza 24]

A. 21

B. 50

C. 47

D. 107

2.	The numbers 1, 5, 25 a A . 5	re factors of ———— B. 10	C.	15	D.	(El-N 25	1onofia 24]
3.	The number 40 is a cor A. 6 and 4	mmon multiple of —— B. 3 and 2		5 and 4	D	8 and	[Alex. 24]
4	Which of those number		٠.	Jana 4	U.	o ariu	
0	A. 7	B. 21	C.	17	D.	19	[Alex. 24]
	The multiple of 4 is —						(Giza 23)
0	A. 1	B. 2	C.	3	D.	4	
6.	The number 7 has —	——factors.					[Cairo 23]
0	A. 1	B. 2	C.	3	D.	4	
7.	Which of the following	is a prime number?					[Cairo 23]
	A. 10	B. 15	C.	17	D.	12	
An	swer the following.						
1.	An even number betwe	en 20 and 30 , some o	fits	factors include:1,2	2,4	,7 and	14
	What is it?	The number is —			[6	iza - Av	vseem 23)
2.	Find all factors of 30 an	d create a factor rainbo	ow i	and T-chart.			
3.	Find the multiples of eamultiples between the		nd 1	I2 up to 40, then find	l th	e comr	mon
4.	Find the common facto	rs and the greatest co	mm	on factor (G.C.F) of 2	4 a	nd 40.	



THEME TWO

UNIT

Mathematical Operations and Algebraic Thinking

Multiplication and Division: Computation and Relationships

▶ Concept 1:

Multiplying by 1-Digit and 2-Digit Factors

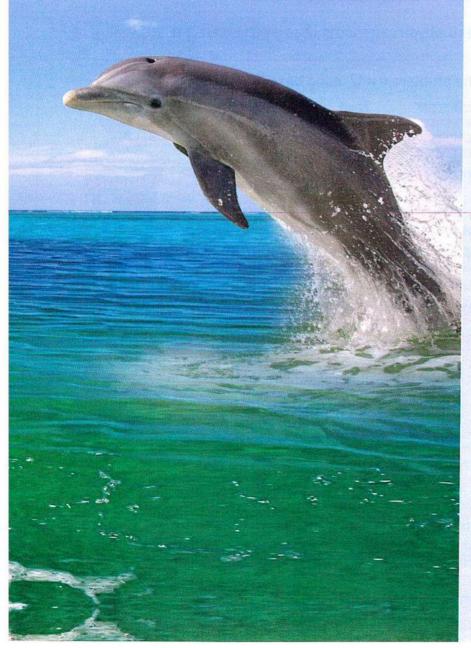
▶ Concept 2:

Dividing by 1-Digit Divisors



CONCEPT

Multiplying by 1-Digit and 2-Digit Factors



▶ Lessons 1&2

The Area Model Strategy The Distributive Property

Learning Objectives:

- Students will use area models to represent two-digit by one-digit multiplication.
- Students will explain how they use place value to multiply.
- Students will use an area model to multiply a one-digit number by a whole number with up to four digits.
- Students will explain the distributive property of multiplication.
- Students will apply the distributive property of multiplication to multiply a one-digit number by a whole number with up to four digits.

Lessons 3&4

The Partial Products Algorithm Multiply by a One-Digit Number

Learning Objectives:

- Students will use the partial products algorithm to multiply a one-digit number by a whole number with up to four digit.
- Students will estimate products of multi digit multiplication problems.
- Students will use the standard algorithm to multiply a one-digit number by a whole number with up to four digits.

Lesson 5

Multiply a Two-Digit Number by a Multiple of 10

Learning Objectives:

- Students will identify patterns when multiplying two multiples of 10.
- Students will multiply a two-digit number by a multiple of 10.
- Students will assess the reasonableness of an answer using estimation and mental math.

Fast Fact

A baby dolphin is called a calf. A calf eats 4 times each hour during the first week of life. How many times does it eat in a day during this time? Lessons

1&2

- ► The Area Model Strategy
- ▶ The Distributive Property



How to multiply a 1-digit number by a 2-digit number ?

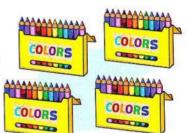
Mazen has 4 boxes of crayons.

Each box holds 12 crayons.

How many crayons does Mazen have in all?

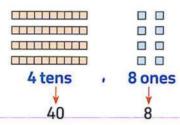
Multiply: 4×12

You can use any of these ways to multiply.



First: Model 2-digit multiplication

- Remember that you can model 12 as
 - Model the problem 4 × 12 using base-ten blocks.



Then, $4 \times 12 = 40 + 8 = 48$ **So,** Mazen has 48 crayons in all.



Second: Using multiplying with the area model multiplication

Model the problem 4 × 12 using the rectangle area model.



Remember -

Area of a rectangle = length × width



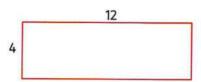


Notes for parents:

 Remind your child that when the number of ones blocks is 10 or greater, he/she needs to regroup 10 ones as 1 ten.

Step 1

Draw a rectangle where the smaller side shows 4 and the longer side shows 12.



Step 2

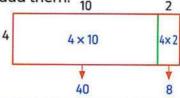
Decompose 12 using place value.

Step 3

Find the area of each of the new two rectangles, then add them. 10

$$•4 \times 10 = 40$$

So,
$$4 \times 12 = 40 + 8 = 48$$

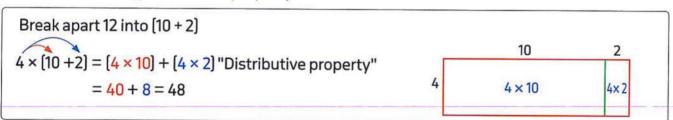


Third: Using the distributive property

You can use the distributive property to solve the problem 4×12 .

The distributive property states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

To find 4 × 12 using distributive property do as follow:



Example

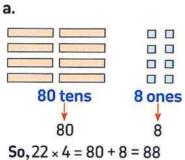
Use base-ten blocks to find each product.

a.
$$22 \times 4$$

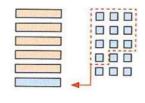


Solution [V

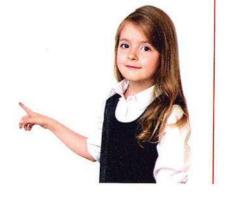




b.



Regroup 10 ones as 1 ten $50,5 \times 13 = 60 + 5 = 65$



[·] While there are multiple ways to decompose a number, numbers should be decomposed using place value when using an area model for multiplication. For example, it is possible to decompose 23 in many different ways, including 17 and 6, 10 and 13, or 14 and 9. However, 23 should be decomposed into 20 and 3 when using an area model for multiplication.

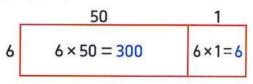
Example 2

Draw an area model to find each product.

a. 6 × 51

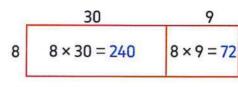
Solution [V]

a. 51 = 50 + 1



So, $6 \times 51 = 300 + 6 = 306$

- b. 39 × 8
- **b.** 39 = 30 + 9



So, $39 \times 8 = 240 + 72 = 312$

Example 3

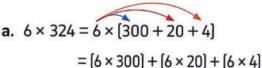
Use the distributive property to solve each problem.

a. 6×324

b. 7 × 2,915

c. 5×407

Solution



b. $7 \times 2,915 = 7 \times (2,000 + 900 + 10 + 5)$

$$= [7 \times 2,000] + [7 \times 900] + [7 \times 10] + [7 \times 5]$$

$$= 14,000 + 6,300 + 70 + 35 = 20,405$$

c. $5 \times 407 = 5 \times [400 + 7]$

 $= (5 \times 400) + (5 \times 7)$

= 2,000 + 35 = 2,035

Check

eck your understanding

Solve each problem. Draw an area model to help you if necessary.

a. 7×29

b. 4 × 283

Notes for parents:

- Your child may incorrectly decompose the factors according to their digits rather than according to the
 value of their digits. He/She may decompose 24 as 2 and 4 rather than 20 and 4.
- Your child may get confused with how many zeros to place at the end of a product. For example, your child may write $7 \times 2,000 = 1,400$ instead of $7 \times 2,000 = 14,000$. Your child may also write $5 \times 200 = 100$ instead of $5 \times 200 = 1,000$

Exercise 29 on lessons 1&2

▶ The Area Model Strategy

- **▶** The Distributive Property
- REMEMBER

• UNDERSTAND

O APPLY

ROBLEM SOLVING

From the school book

1. III Use a quick draw to solve each of the problems that follow.

a. 17×4

b. 21 × 3

c. 14×5

2. III Draw an area model to solve each of the problems.

a. 32×7

b. 88×6

c. 91×4

d. 35×7

e. 249 × 5

f. 5 × 483

g. 7×723

h. 530×7

i. 4,734 × 5

j. 2,391 × 8

3. Use the distributive property to solve each problem.

a. 8×35

b. 7×68

c. 2×724

d. 3×684

e. 5 × 135

f. 8×214

 $g. 3 \times 1,476$

h. $9 \times 4,523$

i. $4 \times 9,035$

j. $8 \times 2,560$

4. Complete.

a. The missing value x in the model is ————



[Alex. 24]

b. 246 × 5 = _____ [solve by using area model] ---

[Cairo 24]



[El-Monofia 24]

d.
$$5 \times 467 = 5 \times 400 + 5 \times ---- + 5 \times 7$$

h.
$$8 \times - - = 8 \times 500 + 8 \times 90 + 8 \times 2$$

i.
$$241 \times ---- = 6 \times 200 + 6 \times 40 + 6 \times 1$$



5. 🕮 By using an area model strategy , solve the problem that follows.

The route that the river bus travels is 58 kilometers long. How many kilometers does the river bus travel if it follows this route 9 times daily?

[Aswan 23]

6. Answer each of the following problems. Draw an area model to help you if need.

a. Samaa bought 13 kg of apples for 6 L.E. a kg. ,find the money which she paid. [Alex. 24]

b. A candy box contains 15 pieces, how many candy pieces are in 9 similar boxes? [Cairo 24]

c. There are 6 people who won 145 pounds each at the fair. How much money did they win all together?
[El-Kalyoubia & Ismailia 22]

d. Twenty-two passengers can fit on each river bus at a time. What is the maximum number of passengers the river bus can carry if it makes 5 trips? [Alex. - Borg El-Arab 22]

e. A city bus is 1,280 centimeters long. What is the length of 3 city buses?

7. Error Analysis. Examine the student work that follows. Identify what the student did correctly and incorrectly, and then try to solve the problem correctly.

A student solved the problem 36 × 8 in the following way:

Explain your thinking.

Multiple Choice Questions

[Cairo 23]

Choose the correct answer.

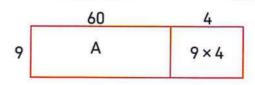
1. The opposite area model equals -



- A. 532
- **B.** 523
- **C.** 530
- **D.** 352

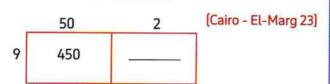
2. To multiply "64 × 9" using the opposite

area model, then A = (Cairo 24)



- A. 9×60
- B. 9+60
- C. 9×6
- D. 9 × 40

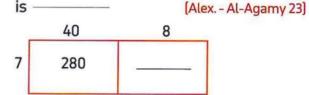
3. The opposite area model represents the product 9 × 52, then the missing value in the model is



A. 9

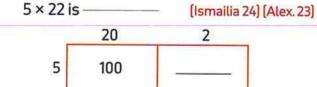
- **B.** 100
- C. 45
- **D.** 18

4. The opposite area model represents the product 7 × 48, then the missing value



- A. 28
- **B.** 78
- C. 56
- **D.** 15

5. In the opposite area model, the missing number of multiplying



- A. 110
- **B.** 10

C. 7

D. 1

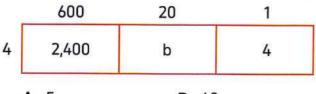
6. The opposite area model represents the product 7 × 25, then the missing value in the model is _______ (Giza 23



- A. 14
- **B.** 140
- **C.** 35
- **D**. 350

7. In the model area, the value of b is—





- **A**. 5
- **B.** 40
- C. 80
- **D**. 90

- 8. $8 \times 36 = [8 \times ----] + [8 \times 6]$ (Giza 24)
 - A. 3
 - B. 6
 - **C.** 30
 - **D.** 60

9. Which of the following represents 35×6 ?

[Kalyoubia 23]

- **A.** $[5 \times 6] + [30 \times 6]$
- C. $[50 \times 6] \times [3 \times 6]$

- **B.** $[5 \times 6] + [3 \times 6]$
- **D.** $[50 \times 6] \times [30 \times 6]$
- **10.** 7 × 526 = 7 × [-----+ 20 + 6]

[Cairo 23]

A. 5

B. 50

C. 500

D. 5,000

11. [7 × 30] + [7 × 5] = ———

(Souhag 23)

- **A.** 7 × 53
- **B.** 70×53
- **C.** 73×75
- **D.** 7×35
- 12. If Mohamed rides his bicycle 13 km per day, then he covers —

- in 5 days. (Beni Suef 24)

- **A.** 5 km
- B. 13 km

C. 18 km

- **D.** 65 km
- 13. Bassem saves 746 pounds monthly, then how much money does he save in 9 months?
 - A. 6,514
- B. 6,714

C. 6,914

D. 6,974

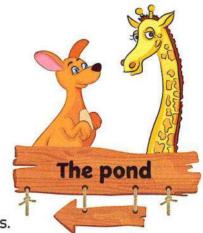


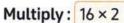
3&4

- ► The Partial Products Algorithm
- ► Multiply by a One-Digit Number

Learn 1 The partial products algorithm

If it takes 16 minutes to go around a pond on a boat at the zoo, how many minutes does it take to go around the pond twice?





Use the partial products algorithm as follows.



Multiply the ones.

$$\begin{array}{c}
16 \\
\times 2 \\
\hline
20 \\
12 \longrightarrow [6 \times 2]
\end{array}$$

Step 3

Add the products.

So, it takes 32 minutes.

20 → [10 × 2]

Step 1

Multiply the tens.

16

You can multiply the ones first, then multiply the tens as follows.

Step 1

Multiply the ones.

$$\begin{array}{c}
16 \\
\times 2 \\
\hline
12 \longrightarrow [6 \times 2]
\end{array}$$

Step 2

Multiply the tens.

Step 3

Add the products.

$$\begin{array}{r}
 16 \\
 \times 2 \\
\hline
 12 \\
 + 20 \\
\hline
 32
 \end{array}$$

Notes for parents:

· Your child should recognize that the commutative property of multiplication allows us to write the factors in any order.



Example 1

Use the partial products algorithm to solve the following.

- a. 76×3
- **b.** 8×214
- c. $6 \times 1{,}352$

Solution [V]





Check your understanding

Fill in the blanks with the missing numbers to multiply.

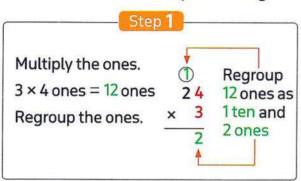
· Remind your child to line up the products carefully according to the place value.



Learn 2 Multiplying by a 1-digit number using standard algorithm

Find: 24 × 3

You can use the standard multiplication algorithm.



Step 2 Multiply the tens. 3×2 tens = 6 tens , then add the regrouped ten 6 tens + 1 ten = 7 tens

So, $24 \times 3 = 72$

You can write the products in a short way as the following examples.

Example 2

Use the standard multiplication algorithm to solve the following.

a. 6×512

b. 2.194×7



512







Check your understanding

Find the products.

a. 56×4

b. 3 × 174

C.	4,	0	1	5
				7

_	Sill State of the	
_		

Notes for parents:

- · Your child sometimes has difficulty demonstrating proper regrouping when using the standard algorithm for multiplication. He/She may omit writing the digit above the correct place or he/she may attempt to place two digits at a time in the product.
- · Train your child to use the short way to find the products.

Learn 3 Estimate products - Choose a strategy

Example 3

Esimate the product. Multiply to check.

 $\mathbf{a}. 3 \times 62$

Solution [V]



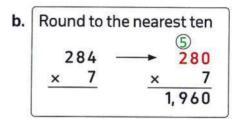
Round 62 to the greatest place value. 3×62 $3 \times 60 = 180$

The actual product:

(Using the partial products algorithm)

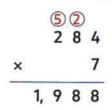
$$\begin{array}{c}
62 \\
\times 3 \\
\hline
180 \longrightarrow [3 \times 60] \\
+ 6 \longrightarrow [3 \times 2]
\end{array}$$

b. 284×7



The actual product:

(Using the Standard Multiplication Strategy]



check your understanding

Estimate the product. Choose a strategy to find the actual product.

87

b. 764

c. 4×341

- Let your child use rounding to check the reasonableness of the answer.
- · Your child may has difficulty determining the number of zeros in a product when multiplying by multiples of 10. especially when the product of the basic fact ends in zero. For example, your child may think that $80 \times 5 = 40$ rather than 4.00

Exercise on lessons 3&4

- ► The Partial Products Algorithm
- Multiply by a One-Digit Number

-	-			_		n	-	-
	w	-	м	•	м	к		w
W.	11				8.5	ν		11

From the school book

1. Fill in the blanks with the missing numbers.

Solve using the partial products algorithm.



b.
$$29 \times 4$$



c.
$$5 \times 343$$



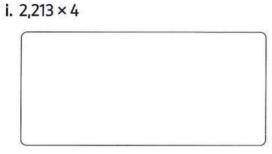


e. 284 × 4	f. 305×7
g. 3 × 2,539	h. 4,731 × 4
Solve using the standard algorithm.	
a. 7 × 30	b. 27 × 3
c. 123 × 4 [El-Menia 24]	d. 126 × 7 [El-Monofia 22]
e.	f. 204×2

g. 356 × 4

[Giza 24]

h. $1,390 \times 2$



j. $3 \times 2,450$



 $oxed{4.}$ $oxed{\square}$ Estimate the product, then solve using the standard algorithm as in the example.

a.

Estimate —

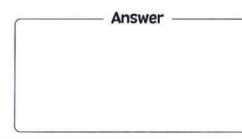
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- Answer -

b.

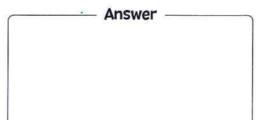


- Estimate -



C.

Estimate -



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	~	-	7	

758 × 3

Estimate

Answer -



1,349 × 2



Answer -



2,327 × 4 Estimate

- Answer -

	Three students tried solving 328 × 2 using the standard algorithm. Explain who you think
00	solved the problem correctly and identify at least one error in another student's solution.

Student 1

 $\begin{array}{r} 328 \\ \times 2 \\ \hline 646 \end{array}$

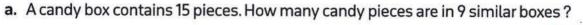
Student 2



Student 3

	3	2	8
×			2
2/2	7	4	4

6. Answer the following.



[El-Monofia 24]

b. Twenty two passengers can fit on each river bus at a time.

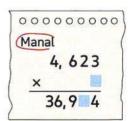
What is the maximum number of passengers the river bus can carry if it makes $5\,\mathrm{trips}\,?$

[Cairo 23]

C.	A library has 5 shelves and each shelve has 35 books. What is the total number of books in the library? [Giza 23]
d	Ahmed bought 4 balls, if the price of each ball is 85 pounds, how much money did he pay? [Giza - Abo El-Nomros 23]
e.	There are 6 people who won 150 pounds each at the fair. How much money did they win all together? [El-Monofia 24]
f.	Mohamed bought 5 m of cloth, the price of one meter is 145 pounds. How much did Mohamed pay for the cloth? [Cairo 24]
g.	5 people participated in an exhibition and each one of them won 150 pounds, how much money did they all win? [Souhag 23]
h.	If mass of a box is 124 kg, then find the mass of 5 boxes with the same mass. [El-Monofia - Sadat City 23]
i.	A factory produced 4,256 toys in each month. How many toys were produced in 3 months? [Cairo - El-Marg 23]



7. Find the missing numbers on Manal paper. Explain your thinking.





Multiple Choice Questions

Choose the correct answer.

[Cairo 23]

[El-Menia 24]

B. 63

B. 168

D. 83

D. 654

3. 54

B. 378

D. 368

B. 1,200

D. 3,192

A. 2,648

B. 8,462

C. 26,480

D. 2,688

6. 504 × 6 =

A. 324

B. 30,240

C. 3,240

D. 3,024

7. The product of 192 × 3 is near close

to ---

8. Which product is NOT correct?

A.
$$63 \times 4 = 252$$

B.
$$3 \times 48 = 144$$

C.
$$7 \times 27 = 149$$

D.
$$6 \times 153 = 918$$

A. 400 C. 600

B. 500

D. 700

9. Which partial products can be used to solve $[35 \times 6]$?

[El-Monofia - Sers El-Layyan 23] [Aswan - Kom Ombo 22]

A.
$$[3 \times 6] \times [50 \times 6]$$

C.
$$[30 \times 6] + [5 \times 6]$$

B.
$$(30 \times 6) \times (50 \times 6)$$

D.
$$[3 \times 6] + [5 \times 6]$$

10. What is the ones digit of the product of 53×6 will be without solving the whole problem?

A. 3

B. 6

C. 8

D. 9

Lesson

5

Multiply a Two-Digit Number by a Multiple of 10



Learn 1 Multiplying two multiples of 10

Essam bought 20 statues for 30 pounds each as souvenirs, how much money did he pay?

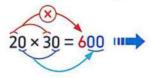
Remember ----

The numbers 10, 20, 30, 40,... are multiples of 10.



20 × 30

How to find the product of 20×30 .



- Multiply 2 × 3 = 6 [Basic Fact]
- Put 00 on the right to get the number 600.

So, he paid 600 pounds.

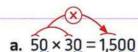


Find the product.

a. 50×30

b. 40×70

Solution [V]



b. $40 \times 70 = 2,800$



Check your understanding

1. Multiply: 70 × 40

2. Multiply: 80 × 90

Notes for parents:

• Let your child notice that the product has as many zeroes as the total number of zeroes in the factors plus any additional zeroes in the basic fact product.



Learn 2 Multiplying a 2-digit number by a multiple of 10

A primary school is formed of 30 classes of 25 pupils each.

Calculate the total number of pupils.

Multiply: 30 × 25

You can use the area model.

_	20	5
30	$30 \times 20 = 600$	30 × 5 = 150



 $30 \times 25 = 600 + 150 = 750$

So, the total number of pupils is 750.

Example 2

Multiply.

a. 60×17

b. 48×90

Solution [7]



a. $60 \times 17 = 600 + 420$ = 1,020

10

 $60 \times 10 = 600$

 $60 \times 7 = 420$

7

b. $48 \times 90 = 3,600 + 720$

=4,320

90

60

 $90 \times 40 = 3,600$

40

 $90 \times 8 = 720$

8



Check your understanding

Multiply: 28 × 70

Work area

[•] Let your child notice that the product of any number and a multiple of 10 has a zero in the ones place.

Exercise

on lesson 5

Multiply a Two-Digit Number by a Multiple of 10

REMEMBER

UNDERSTAND

O APPLY

PROBLEM SOLVING

III From the school book

1. Find the following products.

a.
$$20 \times 70 =$$
 ______ [Cairo 23] | **b.** \square $30 \times 50 =$ _____ [Giza 24] | **c.** \square $20 \times 80 =$ _____

d.
$$\square$$
 50 × 60 = \square [Alex. 24] **e.** \square 40 × 40 = \square

h.
$$\square 90 \times 70 =$$
 i. $90 \times 90 =$

(Port Said 24)

r.
$$5 \times 3,000 = ---- \times 1,000$$

s.
$$3 \times 4,000 = ---- \times 1,000$$

2. 🛄 Complete the table.

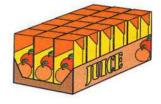
	Problem	Area Model	Numbers and symbols
a.	40 × 62		2,480
b.	70 × 55		
c.	54 × 30		
d.	40 × 78		
e.	44 × 20		s s
f.	15 × 30		
g.	10 × 40		
h.	72 × 40		

3. Answer the following.

a. Mariam bought 10 books, price of each 26 pounds,
 find price of all books, Mariam bought. [El-Monofia 24]



b. A merchant bought 20 boxes of soft drinks for 40 pounds each. How much money did he pay?



c. Khaled bought 15 books, if the price of one book was 40 pounds.
What was the mount that Khaled paid? [El Menia 24]



d. A group of 52 persons want to travel by bus. Each bus ticket costs 40 pounds. How much money do they pay in all?



e. A group of 38 people want to travel by bus.
Each bus ticket costs 30 L.E. How much do they need to pay in all?



4. Error Analysis.

Examine the student's work. Is his answer reasonable? How do you know? Explain your thinking.

 $22 \times 50 = [20 + 2] \times 50 = [20 \times 50] + [2 \times 50] = 100 + 100 = 200$

Multiple Choice Questions

Choose the correct answer.

[Port Said 24]

[Kafr El-Seikh 24]

B. 140

B. 300

D. 14,000

D. 3

 $- \times 70 = 3,500$

4. 60 × 70 =

[Giza - Abo El-Nomros 23]

B. 35

B. 4,200

D. 53

C. 42,000

D. 2,400

6. 36 × 100 = -

[El-Menia 24]

A. 57

B. 1,930

A. 36

B. 360

C. 273

D. 570

C. 3,600

D. 36,000

[Kafr El-Sheikh 24]

8. 4×-- = 240 [Kafr El-Sheikh 24]

A. 200

B. 20,000

A. 40

B. 60

C. 2,000

D. 20

C. 20

D. 80

9. $2,000 = 2 \times -$

[Kafr El-Sheikh 24]

10. $20 \times 5 = 2 \times -$

[Kafr El-Sheikh 24]

A. 1,000

B. 100

A. 100

B. 50

C. 10

D. 1

C. 30

D. 60

11. If $3 \times 55 = 165$, then $30 \times 550 = -$

[El-Menia 24]

A. 165

B. 1,650

C. 16,500

D. 165,000

12. Mina runs 12 hours every week.-What is the number of running hours in 10 weeks?

A. 12

B. 102

C. 120

D. 22

13. Mona made 10 bracelets. There are 13 beads on each bracelet. How many beads are there on all 10 bracelets?

A. 103

B. 113

C. 130

D. 1,300

CONCEPT 2

Dividing by 1-Digit Divisors



▶ Lesson 6

Exploring Remainders

Learning Objectives:

- Students will identify the dividend, divisor, and quotient of a division problem.
- Students will solve division problems.
- Students will explain what a remainder represents in a division problem.

▶ Lesson 7

Patterns in Division

Learning Objectives:

 Students will use place value, multiplication facts, and patterns with zeros to divide multiples of 10, 100 and 1,000 by one-digit divisors.

Lesson 8

The Area Model and Division

Learning Objectives:

 Students will use area models to represent and solve division problems.

Lessons 9&10

The Partial Quotients Algorithm
The Standard Division Algorithm

Learning Objectives:

- Students will use the partial quotients algorithm to divide dividends with up to four digits by one-digit divisors.
- Students will estimate quotients using properties of place value and patterns in multiplication and division.
- Students will use the standard algorithm to solve division problems.

Lesson 11

Division and Multiplication

Learning Objectives:

- Students will use properties of place value to accurately record quotients.
- Students will use the relationship between multiplication and division to check the accuracy of quotients.

Fast Fact

Cheetah is the fastest land animal in the world. A cheetah can reach 112 kilometers per hour. If a cheetah ran for quarter an hour at its fastest speed, how far could it run?

Lesson

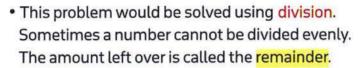
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Exploring Remainders



Learn

Three friends are playing a game of dominoes. There are 28 dominoes in the set. If each player receives the same number of dominoes, how many dominoes will each player get? How many dominoes will be left over?



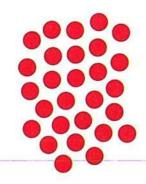


Divide: 28 by 3.

Write 28 ÷ 3

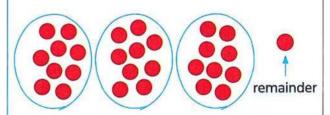
Step 1

Use 28 counters



Step 2

Draw 3 circles. Divide the 28 counters into 3 equal groups. The counter left over is the remainder.



The quotient is 9 and the remainder is 1

Then: $\frac{28}{4} \div \frac{3}{4} = \frac{9}{4}$ R1

dividend divisor quotient remainder

So, each player will get 9 dominoes. There will be 1 domino left over.

-Math Hint-

The sum of the digit 2 and 8 is 10 and 10 is not existing when skip counting by 3s so, there will be a remainder.

ERROR

Note that

If the number is divided equally, the remainder is 0

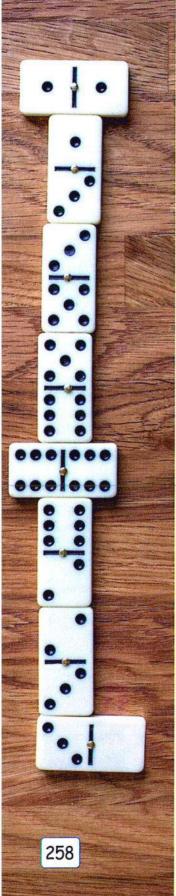
Examples: $27 \div 3 = 9 R O$

 $40 \div 8 = 5 R O$

If the remainder is greater than the divisor, keep dividing the counters evenly until the remainder is less than the divisor.

Notes for parents:

• Ask your what the numbers in the equation represent in the problem. Label the numbers in the equation with the correct vocabulary words.



Example 1

Find the quotient and the remainder. You may use counters to model.

- **a.** $13 \div 2$
- **b.** $23 \div 4$
- c. $32 \div 3$

Solution [V



 $13 \div 2 = 6R1$



Remember

Division is the inverse of multiplication

$$2 \times 6 = 12$$

$$12 \div 2 = 6$$

So

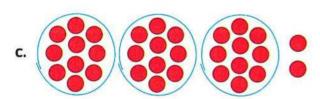
$$13 \div 2 = 6 R1$$

because $13 = [2 \times 6] + 1$









 $32 \div 3 = 10 R 2$

Note that

The remainder is always less than the divisor.

Example 2

There are 62 students in fourth grade in a school. Each table in the library room seats six students. How many tables are needed to seat all fourth graders?

Solution [V]



This problem would be solved using division $62 \div 6 = 10 R 2$ 11 tables are needed [10 tables will be filled and one more table is needed for the 2 extra students) So, 10 + 1 = 11 tables are needed.



check your understanding

Find the quotient and the remainder. You may use counters to model.

a. $17 \div 5$

b. $26 \div 6$

c. $9 \div 2$

· Your child may be confused by having a remainder in a division problem. He/She may try to place the remainder into an existing group or into an additional group, both leading to unequal sharing.

Exercise 32

Exploring Remainders

on lesson 6

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UNDERSTAND

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PROBLEM SOLVING

From the school book

1. Find each quotient and remainder. Complete the following.

2. Find each quotient and remainder.

3. Find each quotient and remainder. Circle all the problems which has 0 left over.

4. Complete.

a. In the equation
$$315 \div 3 = 105$$
, the divisor is ______

b. If
$$45 \div 5 = 9$$
, then the divisor is —

c. The quotient in
$$480 \div 10 = 48$$
 is _____

d. If
$$35 \div 5 = 7$$
, the digit 5 is called ————

g. 38 ÷ 6 = _____ R2

[Cairo 23]

h. 22 ÷ 6 = ______ R _____

(Luxor 24) (Kafr El-Sheikh 24)

i. 5 ÷ 4 = — Remainder —

[Alex. 23]

 $j. 26 \div 5 =$ and the reminder is _____

[Cairo 23]

- 5. Solve the following problems.
 - a. Saleem brought 15 pies to give to 4 of his friends. How can Saleem share the pies equally? What is left?
 - b. Rose has 19 biscuits to give to her 9 friends.How can Rose share the biscuits equally ? What is left?
 - c. There are 48 mugs that need to be put in boxes and shipped. Five mugs can fit in each box. How many boxes will be needed to ship the mugs?
 - d. Going to a Swim Meet. The swim team is taking a bus to a swim meet. Each bus seats 40 students. Sixty students will attend the meet. How many buses are needed? Use numbers, words, and symbols to explain your thinking.

Challenge

Each page of Ahmed's album holds 4 photographs. He filled all 9 pages and still had
 3 photos left over.

How many photos did Ahmed have to start with?

Multiple Choice Questions

Choose the correct answer.

1. In the equation $48 \div 6 = 8$, the dividend is-

[Alex. 24]

- A. 48
- B. 6

- C. 8
- D. 4

2. If $20 \div 6 = 3 R 2$, then the divisor is—

[Giza 24]

- A. 20
- **B**. 3
- C. 6

D. 2

3. If $600 \div 10 = 60$, then the divisor is ———

[Cairo 24] [El-Monofia 24]

A. 1

C. 60

- **B.** 10
- D. 600

4. The quotient in 162 ÷ 9 = 18 is ———

[El-Monofia 24]

[El-Menia 24]

- A. 9
- **B.** 162
- C. 18
- **D**. 10

5. If $40 \div 8 = 5$, then 5 is called –

[Kafr El-Sheikh 24]

- A. divisor
- B. dividend
- C. quotient
- D. remainder
- 6. $17 \div 3 = 5 R$

A. 1

B. 2

C. 3

D. 4

7. 29 ÷ 3 = 9 R —

[El-Monofia 24]

A. 2

B. 6

C. 1

D. 3

8. $37 \div 9 = 4$ and remainder

[Cairo - Rod El-Farag 23]

A. 1

B. 3

C. 4

D. 2

9. 11 ÷ 3 = ----

(Ismaillia 23)

10. The reminder of dividing 37 by 5 is———

- B. 4R1

A. 2

B. 7

- A. 3R1 C. 3R2
- D. 4R2

C. 5

D. 1

11. The remainder of dividing:

57 ÷ 8 equals —

[Cairo 24]

A. 1 **C**. 3

- B. 2 D. 4
- 12. When dividing 27 by 6 the quotient is 4
 - and the reminder is ----
- [Cairo 24]

(Giza 23)

- A. 6 C. 4
- **B.** 5 **D**. 3

13. 52 pounds distributed equally among 6 friends, then the remainder is-

pounds.

[Giza - Awseem 23]

A. 2

B. 4

C. 3

D. 5

- 14. If 37 oranges are distributed equally among 5 plates, how many oranges will be left? [Cairo 24] [Monofia - Berket El-Sabaa 23]
 - A. 5

B. 2

C. 7

D. 0

Patterns in Division



Learn

Sara's family collected coins, when the jar was full, Sara's father gave the coins to his three daughters.





They counted 6,000 coins and shared them equally.

How many coins did each girl get?

Divide: 6,000 ÷ 3

Basic facts, pattern and place value can help you divide.

Use the basic fact $6 \div 3 = 2$

$$60 \div 3 = 20$$

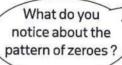
$$600 \div 3 = 200$$

$$6, 000 \div 3 = 2, 000$$

Three zeroes

Three zeroes

So, each girl got 2,000 coins.







Remember

$$6 \div 3 = 2$$

6 is called the dividend 3 is called the divisor 2 is called the quotient

Example 1

Use patterns to find the quotient.

a.
$$8 \div 2 = -$$

$$1,500 \div 5 = -$$

a.
$$8 \div 2 =$$
 b. $15 \div 5 =$ **c.** $20 \div 4 =$

Solution [V]



- 40
 - 400 4,000
- **b.** 3 30
 - 300 3,000
- **c.** 5
 - 50 500
 - 5,000

Notes for parents:

- Your child may only look at the place with the highest value and try to divide. For example, with 2,400 \div 3, he/she may try to solve 2 \div 3 instead of 24 \div 3. Your child may be confused by how many zeroes to put in a quotient,
- especially when the basic fact includes a zero. For example, the basic fact for 2,000 ÷ 4 is 20 ÷ 4 = 5. The quotient is 500 since there are two other zeroes in the dividend.

Example 2

Write the basic fact that you can use to solve these problems. Then solve each problem.

	Problem	Basic Fact	Quotient
a.	90 ÷ 3		
b.	160 ÷ 2		
c.	5,500 ÷ 5		

Solution [V]

	Problem	Basic Fact	Quotient
a.	90 ÷ 3	9 ÷ 3 = 3	30
b.	160 ÷ 2	16 ÷ 2 = 8	80
c.	5,500 ÷ 5	55 ÷ 5 = 11	1,100

Example 3

Complete each missing number.

b.
$$\div$$
 3 = 100

Solution [V]



a. 20

b. 300

c. 7

check your understanding

1. Use patterns and place value to find each quotient.

2. How can you use $16 \div 4 = 4$ to help you find $160 \div 4$?

Notes for parents:

· Make sure your child recognized that the number of zeroes in the dividend is the same as the number of zeroes in the quotient unless the basic fact has a zero in it.

Exercise 33

on lesson 7

Patterns in Division

• DEMEMBER

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UNDERSTAND

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PROBLEM SOLVING

From the school book

1. Use patterns and place value to find each quotient.

2. Division Patterns Label the parts in the equation using the words divisor, dividend, and quotient. Then, look for patterns to complete the remaining problems.

The first problem in the table is an example that is filled in for you.

Equation	Basic (Related) Fact	Quotient
600 ÷ 3	6 ÷ 3 = 2	200
150 ÷ 5		
1,200 ÷ 6		
200 ÷ 4		
700 ÷ 7		
5,400 ÷ 8		
4,500 ÷ 9		
270 ÷ 3		

3. Find each quotient.

d.
$$270 \div 3 = \frac{}{\text{[Port Said 24]}}$$

g.
$$280 \div 4 = \frac{}{\text{[Kafr El-Sheikh 24]}}$$

f.
$$550 \div 5 =$$
 [Giza - Awseem 23]

4. Complete the missing numbers.



j.
$$\div 9 = 9,000$$

m.
$$\div 5 = 5,000$$

n.
$$\div 6 = 8,000$$

f.
$$\div 4 = 700$$

o.
$$\div 7 = 6,000$$

Solve the following problems.

- a. Mrs. Farida's class is 60 minutes long. She wants to divide her class time into 3 equal periods. How long will each period be?
- b. An organization donated 120 books for a school, the books is equally distributed among 12 classes, how many books in each class? [Cairo 24]
- c. Bassem is reading a book of 180 pages. If he reads 9 pages per day, how long will it take him to finish the book?
- d. At a primary school, the students collected 3,000 pounds as a donation to kids Hospital. Each student donated 5 pounds. How many students donated?

e. Riding the Metro

There are 8,100 people that need to get to work on Monday morning at 7:00 a.m. They all want to take the metro to work. There are 9 cars on each metro. If 90 people can fit in each car, can all the people take the same metro to work? Explain your thinking using numbers, words and symbols.

Challenge

6. A class wants to plant 450 flowers for Earth Day, in equal rows. If they plant 50 rows, how many flowers are in each row?

Multiple Choice Questions

Choose the correct answer.

[Cairo – El-Nozha 23]

A. 101

12.
$$-----\div 7 = 300$$

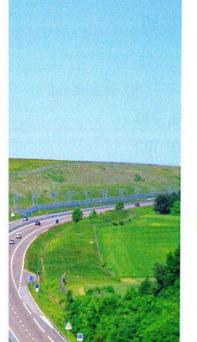
13.
$$63 \text{ tens} \div 7 = ------ \text{ tens}$$

C. 900

— hundreds
$$\div$$
 5 = 20 tens

8

The Area Model and Division



Learn

Bassem's family drove 615 kilometers in 3 days. They drove the same number of kilometers every day.

How many kilometers did they drive per day?

Divide: 615 ÷ 3

You can use an area model for division.



Draw a long rectangle and write 3 on the smaller left side of the rectangle.

Think -

615 = 600 + 15

Step 2

Since $3 \times 200 = 600$, then 600 is a multiple of 3 which is the divisor in this problem.

Draw a vertical line inside the rectangle. Write $3 \times 200 = 600$ inside the section of the model and 200 underneath.

Remember ----Area of rectangle

= length × width

Step 3

Since $3 \times 5 = 15$, then 15 is a multiple of 3 which is the divisor in this problem. Write $3 \times 5 = 15$ inside the empty section of the model and 5 underneath.

Notes for parents:

• Your child may get confused with how many zeroes to place at the end of a product. For example, he/she may write $7 \times 3,000 = 2,100$ instead of $7 \times 3,000 = 21,000$. Your child may also write $4 \times 500 = 200$ instead of $4 \times 500 = 2,000$

Step 4

Check your answers and there is no left over.

Add the areas: 600 + 15 = 615 R 0 (no remainder)

Add the sides: 200 + 5 = 205

then: $615 \div 3 = 205$

They drove 205 kilometers per day for 3 days.



Example

Draw an area model to solve each problem.

a.
$$69 \div 3$$

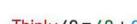
b.
$$825 \div 4$$

c.
$$3,600 \div 6$$

Remember -

Check the left over in each problem.

Solution [V]



a. Think:
$$69 = 60 + 9$$

$$3 \times 20 = 60$$
 $3 \times 3 = 9$

Add the areas: 60 + 9 = 69 R O [no remainder]

Add the sides: 20 + 3 = 23

So, $69 \div 3 = 23$

b. Think: 825 = 800 + 25, 25 = 24 + 1

Add the areas: 800 + 24 + 1 = 825

Add the sides: 200 + 6 R1 = 206 R1

So, $825 \div 4 = 206 R1$

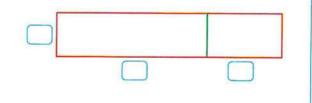
c. 6 $6 \times 600 = 3,600$ 600

So, $3,600 \div 6 = 600$ [no remainder]

check your understanding

Use the area to model the following problem.

535 ÷ 5



[·] Your child may have difficulty determining which multiples to use to start decomposing a dividend when using an area model. It is most effective and efficient to start with multiplying the divisor by 10, 100 or 1,000. For example, for 256 \div 8, it is helpful to begin with 8 \times 10 = 80 and to work up to 256.

Exercise 34

on lesson 8

The Area Model and Division

REMEMBER

UNDERSTAND

O APPLY

ROBLEM SOLVING

From the school book

1. Use the area model to solve each of the following.

a.
$$64 \div 2$$



b. $85 \div 4$



c. $217 \div 5$



d. 159 ÷ 3



e. 636 ÷ 6



f. 484 ÷ 8



2. Use the area model to solve the problems. Show your work.

b.
$$67 \div 3$$

	Sylvia is sharing her muffines. If she shares 63 muffines among
	3 groups of people, what is the share of each group?
b.	An organization donated 89 books to a school. The books will be shared among 6 classrooms. How many books will each classroom get?
C.	Rashida saved 545 L.E. to buy a toy car. She did this by saving 5 L.E. every day she worked around her neighborhood. How many days did she have to work to save enough money to buy a toy car?
d.	Amir bought a book of stickers. There were 92 stickers in the book. He wanted to give them to 4 of his friends. How many stickers will each of his friends get?
	Writing About Math. There are 492 cars that need to park at the stadium. The stadium has 4 parking lots. The stadium wants the same number of cars to park in each lot. How could you use the previous problem to help you solve 492 ÷ 4? Use words, numbers and symbols to explain your thinking.

Multiple Choice Questions

Choose the correct answer.

- 1. In the opposite area model, which choice best represents the problem?
 - A. $515 \div 5$
- **B.** $502 \div 5$
- C. $512 \div 5$
- **D.** $517 \div 5$



2. Using the following area model, the quotient equals — [El-Monofia - Berket El-Sabaa 23]

- A. 545
- **B.** 109
- C. 100
- D. 9

- $5 \times 100 = 500$ $5 \times 9 = 45$ 100 9
- 3. Which number best completes the area model to find 148 ÷ 6?
 - The value of? is
 - **A.** $6 \times 2 = 12$
- B. $6 \times 20 = 120$
- C. 20 + 4 = 24
- **D.** 20+4+2=26
- ? $6 \times 4 = 24$ 20 R4
- 4. Maha use the opposite model of rectangle area to find the result of 369 \div 3 , then M = -
 - A. 123

C. 3

- B. 9
- D. 396
- 100 20 3 300 60 3 M
- [Cairo El-Salam. 23]

- 5. 312 ÷ 3 = __
- [Giza 23]
- 6. 606 ÷ 6 =
- [Alex. 23]

A. 14

B. 13

- A. 101
- B. 11

- C. 401
- D. 104

- C. 100
- D. 16

- 7. $963 \div 3 = -$
- [Beheira Hosh Essa 23]
- 8. $240 \div 4 = -$
- [Beheira 23]

- A. 321
- **B.** 333

A. 6

B. 60

- C. 222
- D. 111

- C. 8
- D. 40

9. $202 \div 2 = -$

[Alex. 24]

A. 2

B. 1

C. 101

- **D.** 10
- 10. A chicken farmer uses egg cartons made from recycled material. If 6 eggs fit into each carton, how many cartons will he need for 312 eggs?
 - A. 50 cartons
- B. 51 cartons
- C. 52 cartons
- D. 53 cartons

Lessons

9&10

- ▶ The Partial Quotients Algorithm
- ▶ The Standard Division Algorithm

Learn 1 The partial quotients algorithm

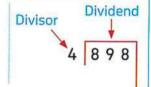
Bassem packs the cakes in groups of 4 to sell in his market.

If an order calls for 898 cakes, how many packages will Bassem need?

Divide: 898 by 4



1. Draw a line as shown in the figure.



- Look at the dividend, start from the left there are 8 in the hundreds place = 800
 - 800 is a multiple of 4 because 4 × 200 = 800
 - Then write 200 to the right of the line (part of the quotient).

3. Write 800 under the dividend and subtract from 898, you will get 98.

4. Write a multiple of 4 that is under 98 and subtract [note 4 × 10 = 40], then write 10 to the right of the line as a part of quotient.

Notes for parents:

· Remind your child to start division from the left.

5. Repeat writing a multiple of 4 under 58 and subtract [note $4 \times 10 = 40 < 58$] and write 10 as a part of quotient to the right of the line.

6. Write a multiple of 4 that is close to 18 [note $4 \times 4 = 16 < 18$], then write 16 under 18 and subtract and write 4 as a part of quotient to the right of the line.

• Then the quotient =
$$200 + 10 + 10 + 4$$

= 224

• Then $898 \div 4 = 224$ and the remainder = 2

Note that -

4 does not divide 898 equally because there is a remainder = 2

- Notes

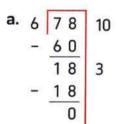
- Always the remainder must be less than the divisor.
- The dividend = divisor × quotient + remainder

Example 1

Divide.

b.
$$658 \div 3$$

Solution [V



$$78 \div 6 = 10 + 3 = 13$$

$$658 \div 3 = 200 + 10 + 9 = 219$$

and the remainder = 1

Notes for parents:

Your child may use any multiple of divisor to divide.

Learn 2 Estimating quotients

- Sometimes you only need to find an estimation.
- One way to estimate quotients is to substitute numbers that make mental math simpler.

For Example:

To estimate the quotient of $257 \div 6$, do as follows:

First

The dividend 257 is between 240 and 300.

[Note: 240 and 300 are multiples of the divisor 6].

Second

 $240 \div 6 = 40$ and $300 \div 6 = 50$

So, the quotient of 257 \div 6 is between 40 and 50.



Example 2 ———

Estimate the quotient of 63 ÷ 4

Solution [V]



The dividend 63 is between 40 and 80.

- , then $40 \div 4 = 10$ and $80 \div 4 = 20$
- , then the quotient is between 10 and 20.



Check your understanding

1. Use the partial quotient algorithm to divide.

a. $52 \div 3$

b. $783 \div 5$

c. $7,320 \div 6$

2. Estimate each quotient.

a. $37 \div 4$

b. $587 \div 2$

c. $762 \div 9$

- · Discuss the purpose of rounding versus using basic facts to estimate by asking your child which method makes the problem easier to calculate mentally. Demonstrate how using a basic fact makes estimating easier for 257 ÷ 6 by having your child try to find each of these quotients mentally : $300 \div 6$, $240 \div 6$.
- · Make sure your child use basic facts and place-value pattern to divide.

Learn 3 The standard division algorithm

Students in the third, fourth and fifth grades made 525 origami animals to display in the library. If each grade made the same number of animals, how many animals did each grade make?

Divide: 525 ÷ 3

or 3 5 2 5



Origami is the Japanese art of folding paper into different shapes.

Step 1

Divide the hundreds.

Step 2

Bring down the tens. Divide the tens.

Bring down the tens. Divide $22 \div 3$

Multiply 7 × 3
Subtract 22 – 21

Compare 1 < 3

Step 3

Bring down the ones. Divide the ones.

Bring down the ones. Divide $15 \div 3$

Multiply 5 × 3
Subtract 15 — 15

Compare 0 < 3

ا 🍣

Remember ----

After you divide the hundreds, tens or ones place, the remainder should always be less than the divisor.

Check Multiply

 $3 \times 175 = 525$ The product

equals the dividend

So, each grade made 175 origami animals.

Other Examples:

a. With a remainder

b. Zero in the dividend

MATH IDEA

The order of division is as follows:

Divide Multiply Subtract Compare Bring down

Repeat this order until the division is complete.

Notes for parents:

 To help your child remember all steps in the division algorithm, let him/her use the following memoric or make up one of his/her own: Don't Make Silly Careless Blunders (Divide. Multiply. Subtract. Compare. Bring down).

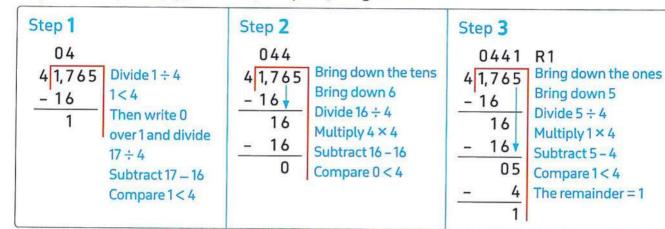
Example 3

Divide: 1,765 ÷ 4

Solution [V]



Steps: Divide, multiply, subtract, compare, bring down.



Then, $1,765 \div 4 = 441 R1$

Example 4

Divide: 432 ÷ 4

Solution [V



(Zero in the quotient)

Step 1

Divide the 4 hundreds.

Step 2

Bring down the 3 tens. Divide the 3 tens.

10	
4 432 - 4 \	3 < 4 , so write a 0
03	in the quotient
- 0	
3	

Step 3

Bring down the 2 ones. Divide the 32 ones.

Then, $432 \div 4 = 108$



check your understanding

Divide.

a. $525 \div 5$

b. $685 \div 4$

- · Remind your child of the division algorithm : divide, multiply, subtract, compare and bring down.
- · Remind your child of including the remainder as a part of the answer.

Exercise on lessons 9&10

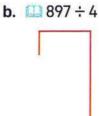
- ▶ The Partial Quotients Algorithm
- The Standard Division Algorithm
- REMEMBER
- UNDERSTAND
- O APPLY
- PROBLEM SOLVING

From the school book

1. Use the partial quotient algorithm to divide.











e. 925 ÷ 6



f. $41,216 \div 3$



2. Complete to estimate the quotient.

The dividend 68 is between 40 and 80, then $40 \div 4 =$, $80 \div 4 =$

, then the quotient is between — and — and

 $457 \div 3$

The dividend 457 is between 300 and 600, then $300 \div = =$

, then the quotient is between — and — and

The dividend 87 is between — and — , then — \div 2 = —

, then the quotient is between — and — —

3. Estimate each quotient.

b.
$$312 \div 4$$

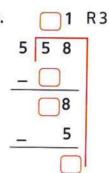
d.
$$495 \div 6$$

4. Copy and complete.

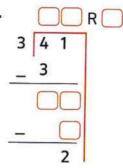


b.

C.



d.

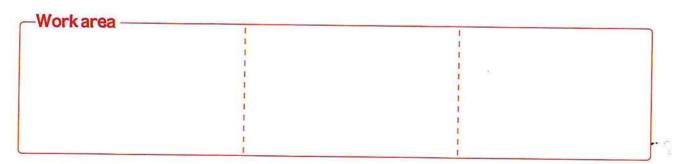


5. Solve the problems using the standard algorithm.

-Work area		
Workarda	1	
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[Alex. - Al-Agamy 23]

work area ———		1	
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	1	i	
	1		



O APPLY

j. $3,650 \div 5$

k. $1,500 \div 5$

 $l. 2,385 \div 5$

[Cairo - El-Marg 23]



6. Amgad has 84 stickers. He distributed them equally among 7 of his friends. What is the share of each one? [Cairo - El-Nozha 23]

7. The school administration distributed 625 students equally into 5 floors. What is the number of students in each floor? [El-Menia 24]

8. A runner covers 824 meters in 4 hours. Calculate the distance he covers in one hour. (Ismaillia 23)

9. The number of pupils in a school is 963 divided equally among 3 floors. How many pupils in each floor? [Kafr El-Sheikh 24]

10. A group of tourists are taking a tour of Alexandria. There are 172 tourists and 8 tour guides in the group. They want to travel to the pyramids in microbuses. Each microbus holds 9 people. How many microbuses will they need in order to get all of them to the pyramids? [Aswan 23] 11. A train has 784 seats for passengers. If there are 7 cars on the train and each car has the same number of seats , how many passengers can sit in each car?

Solve the problem using at least two different strategies.



12. Ayman has 2,532 pounds, he divided them equally between his 3 friends, find the share of each of them. [Cairo 24]

Challenge

13. Youssef divided a number between 55 and 60 by 5. The remainder was 4. What number did Youssef divide?



Multiple Choice Questions

Choose the correct answer.

division form.

The dividend is-

[El-Monofia - Berket El-Sabaa 23]

C. 137

D. 1

(Cairo 23)

C. 13

[Cairo - El-Marg 23]

[Cairo 23]

B. 191

B. 14

D. 119

D. 414

[El-Monofia 24]

6. $125 \div 5 = -$

[Port Said 24]

B. 107

A. 15

B. 25

D. 170

C. 52

D. 5

[Luxor 24]

8. $147 \div 7 = -$

[Alex. 24]

A. 175

B. 117

A. 21R3

B. 20

C. 115

D. 145

C. 21

D. 22

9. $963 \div 3 = -$

C. 312

B. 302

(Ismailia 24)

10. $357 \div 3 =$

(El-Beheira 24)

A. 123

D. 321

A. 19

C. 911

B. 191

D. 119

11. $1,695 \div 5 = -$

[Giza 23]

12. 6,524 ÷ 4 = _

[Cairo 24]

B. 339

A. 1,631

B. 1,151

C. 329

D. 393

C. 1,361

D. 1,316

11

Division and Multiplication



The relation between multiplication and division

There are 736 crayons wanted to be divided among boxes. Each box holds 4 crayons. How many boxes are needed?

Divide: 736 ÷ 4

Estimation can help decide whether an answer is reasonable. Division can help solve the problem.

Multiplication can help check the answer.



Known that

Multiplication and division by the same number are opposite operations or inverse operations. One operation undoes the other.

First Estimate the quotient

The dividend 736 is between 400 and 800

Note that

400 and 800 are multiples of 4

Then: $400 \div 4 = 100$ and $800 \div 4 = 200$

So, the quotient is between 100 and 200

Algorithm strategy ...

4 7	3	6
<u>- 4</u>	V	+
- 3	2	•
	1	6
-	1	6
	0	0

Second Divide 736 ÷ 4

The number of boxes = $736 \div 4$ = 184 boxes

The answer is reasonable.

Third Multiply to check

 $184 \times 4 = 736$

So, the needed boxes are 184 boxes.

Notes for parents:

· Ask your child to tell you what is the relation between multiplication and division.

Partial strategy

Example 1

Write the division problem that matches the multiplication problem.

3 4

b.

C.

Solution [V]



a.
$$68 \div 2 = 34$$

b.
$$1.554 \div 3 = 518$$

c.
$$6,356 \div 7 = 908$$

Example 2

Write the division problem that matches the multiplication problem.

a.
$$14 \times 2 = 28$$

b.
$$161 \times 5 = 805$$

c.
$$105 \times 7 = 735$$

d.
$$320 \times 6 = 1,920$$

Solution [V]



a.
$$28 \div 2 = 14$$

b.
$$805 \div 5 = 161$$

c.
$$735 \div 7 = 105$$

d.
$$1,920 \div 6 = 320$$

check your understanding

Write the division problem that matches the multiplication problem.



Notes for parents:

· Ask your child to explain how can he/she uses the relation between multiplication and division to solve multiplication and division problems.

Division and Multiplication

REMEMBER

UNDERSTAND

O APPLY

PROBLEM SOLVING

From the school book

1. Write the division problem that matches the multiplication problem.

a.

	4	8
×		6
•	4	8
+ 2	4	0

C.

d.

2. Write the division problem that matches the multiplication problem.

C.

=



7

×

g.

h.

93



9

=

3. Place Value and the Quotient : First, circle the problems you think will have a quotient with fewer digits than the dividend. Then, estimate the quotient and solve each problem using the standard algorithm for division. Think about where to place the first digit in the quotient.

a.	834 ÷ 3	b. 346 ÷ 5	
	The quotient is between ———and ———	The quotient is between ————and ———	
	Solution:	Solution:	
c.	562 ÷ 8	d. 1,266 ÷ 6	
	The quotient is between ———and ———	The quotient is between ———and ———	
	Solution:	Solution:	
e.	1,429 ÷ 7	f. 4,590 ÷ 3	
	The quotient is between ———and ———	The quotient is between ———and ———	

4. Solve the following problems. You may use multiplication to check your answer.

Solution:

b.
$$219 \div 3 =$$

Solution:



Multiple Choice Questions

Choose the correct answer.

1. If $73 \times 8 = 584$, then $584 \div 8 =$

[Giza – Abo El-Nomros 23]

A. 78

B. 73

C. 83

D. 87

- 2. The division equation that matches 126 × 3 = 378 is _____
- Which expression can be used to check the solution of the opposite division problem?
- 28R4
 9256
 -18 \rightarrow
 76
 -72

- **A.** 378 3 = 126
- **B.** 378 + 3 = 126
- **C.** $378 \div 3 = 126$
- **D.** $378 \times 3 = 126$

B. 28 × 256

A. 28×9

- C. $28 \times 9 + 4$
- **D.** $28 \times 256 + 4$
- 4. In the problem 1,866 ÷ 6, the quotient is between ———— and ————
 - A. 100 and 200
 - B. 200 and 300
 - C. 300 and 400
 - D. 400 and 500

- 5. What is the value of ? in the opposite division problem?
 - **A.** 73
 - B. 73 R1
 - C. 73 R 2
 - **D.** 73 R 3

- 6. 48 ÷ 7 = _____
 - A. 6R4
- B. 6R5
- C. 6R6
- D. 7R1
- 7. 320 ÷ 4 = -
 - **A.** 80

- **B.** 90
- **C.** 80 R 3
- **D.** 90 R 3

- 8. 2,014 ÷ 2 = _____
 - A. 17

B. 107

C. 1,007

D. 10,007

- **9.** 2,748 ÷ 9 = _____
 - A. 304 R 2
- **B.** 304 R 3
- **C.** 305 R 2
- D. 305 R 3

Unit Seven Assessment



1. Choose the correct answer.

1. If 37 oranges are distributed equally among 5 plates, how many oranges will be left?

[El-Monofia - Sers El-Layyan 23]

A. 5

B. 2

C.7

D. 0

2. Which partial product can be used to solve 35×6 ?

(Souhag 23)

A. $[3 \times 6] \times [50 \times 6]$

B. $[30 \times 6] \times [50 \times 6]$

C. $[30 \times 6] + [5 \times 6]$

D. $[3 \times 6] + [5 \times 6]$

3. In the equation $6 \times b = 42$, then b = -

[Alex. 23]

A. 8

B. 5

C. 6

D.7

4. The quotient of dividing 922 by 3 is — and the remainder is 1. [Cairo - Heliopolis 23]

A. 37

B. 703

C. 307

D. 76

5. 505 ÷ 5 = _____

[Cairo 23]

A. 100

B. 110

C. 101

D. 111

6. 125 × 5 = -

[Cairo 23]

A. 625

B. 130

C. 605

D. 505

7. If $50 \div 10 = 5$, then the divisor is –

[El-Behiera - Hosh Essa 23]

A. 40

C. 10

D. 50

2. Complete the following.

- 1. 4 × 372 = 4 × _____ + 4 × ____ + 4 × ____
- **2**. 80 × 50 = _____
- 3. If $2,166 \div 6 = 361$, then the divisor is ______, the dividend is _____ and the quotient is ———
- 4. _____ × 30 = 2,700
- 5. $7 \times - = 7 \times 600 + 7 \times 50 + 7 \times 3$
- 6. If $641 \times 7 = 4{,}487$, then $4{,}487 \div 7 = -$

[Giza 23]

[Port Said 24]

7. In the opposite area model:

100 20 3 3

369 ÷ 3 = _____

3. Choose the correct answer.

- 1. ——— × 70 = 2,800
 - A. 40
- **B**. 30

C. 50

D. 60

10

2. The area model represents 15×6

What number belongs in rectangle A?

6

- A. 15
- **B.** 20

C. 30

D. 45

- 3. 4,000 ÷ 5 2,000 ÷ 5
 - A. >

B. <

C. =

- **4.** 45,000 ÷ = 9,000
- **A.** 5
- **B.** 50

C. 500

- **D.** 5,000
- 5. Ahmed spends 6 hours in school, so if we want to calculate Ahmed's school day by

minutes we ———

[El-Menia 24]

5

A

- A.6 + 60
- $B.6 \times 24$

C.6 + 24

- $D.6 \times 60$
- 6. 52 pounds distributed equally among 6 friends , then the remainder is

[Cairo 23]

- A. 2
- B. 4

C. 0

D. 5

7. 125 ÷ 5 = ----

- (Souhag 23)

- A. 5
- **B.** 15

C. 25

D. 625

4. Answer the following.

1. Find the result using any strategy:

25 × 3 = ----

[El-Menia 24]

2. Use the partial quotient algorithm to divide.

7,425 ÷ 5

- 3. A city bus is 1,270 centimeters long. What is the length of 4 city buses?
- 4. Mazen bought 4 books, if the price of each book is 87 pounds.

(Ismailia 24)

How much money did he pay?

(iorridate)

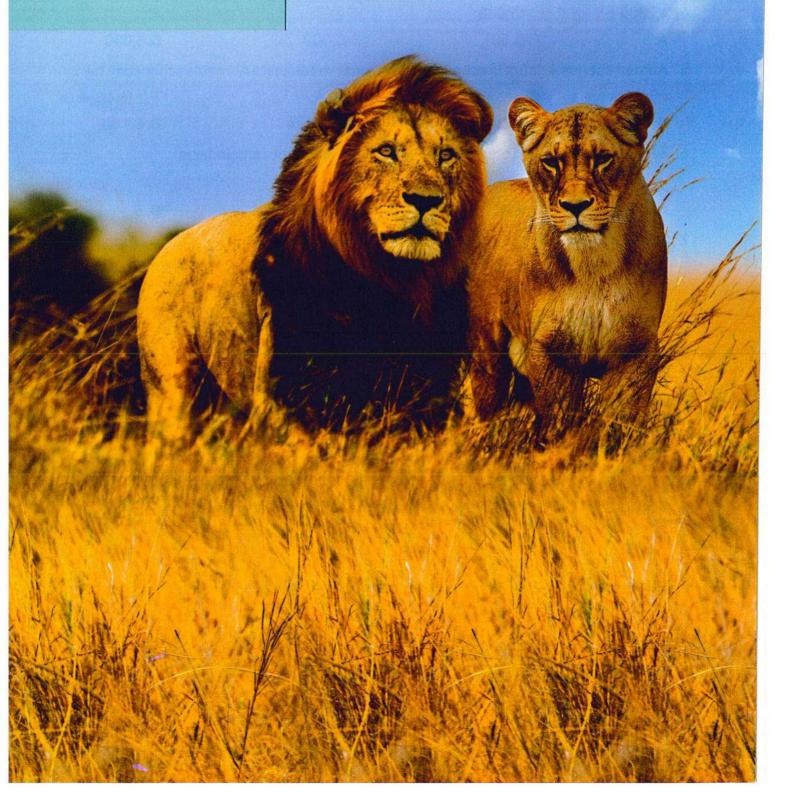


Mathematical Operations and Algebraic Thinking

UNIT 8

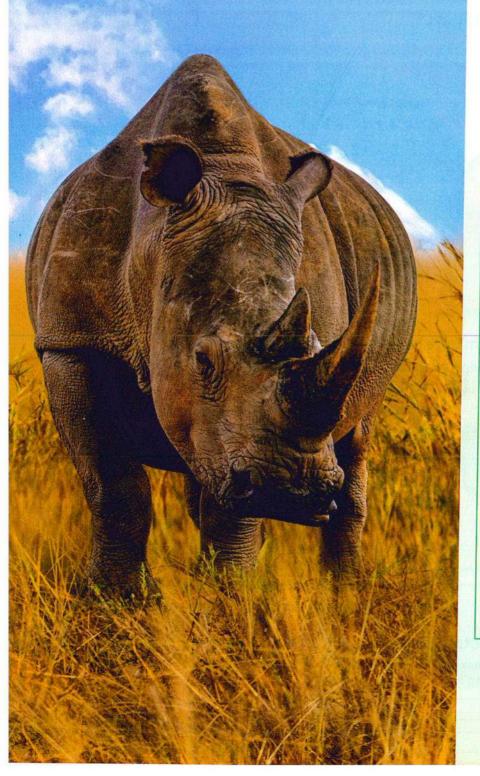
Order of Operations

► Concept 1: Order of Operations



CONCEPT

Order of Operations



▶ Lessons 1&2

Order of Operations The Order of Operations and Story Problems

Learning Objectives:

- Students will use the order of operations to solve equations with multiple operations.
- Students will use the order of operations to solve equations with multiple operations.
- Students will write and solve an equation to represent a multistep story problem.

Fast Fact

- ▶ Rhino is one of the biggest animals in the world which can weigh a massive 2,500 kg That's the weight of 30 men! Sadly! it's estimated that there are only 29,000 rhinos left in the wild, compared to 500,000 at the beginning of the 20th century.
- ► Lion often known as the
 "King of the jungle".
 Lions usually live in groups of
 10 or 15 animals. A female lion
 needs 5 kg of meat a day.
 A male needs 7 kg or more
 a day.
 How many kilograms do

How many kilograms do 3 females lion and 2 males need a day?

Lessons

1&2

- Order of Operations
- ▶ The Order of Operations and Story Problems

Learn 1 Order of operations

Find: $6-2 \div 2$

- · Sara solved the problem by subtracting first and then dividing. What did she get?
- Bassem solved the problem by dividing first and then subtracting. What did he get?

Sara

Think:
$$6-2=4$$

 $6-2 \div 2 = 4 \div 2$
 $= 2$

Bassem

Think:
$$2 \div 2 = 1$$

6-2 ÷ 2 = 6-1
= 5



There seem to be two correct answers.

When solving problems with more than one operation, you need to know which operation to do first. A special set of rules, called the order of operations, can be used to solve problems with more than one operation.

Order of Operations

First, perform any operations in parentheses. Next, multiply and divide from left to right. Then, add and subtract from left to right.

So, the correct answer to $6-2 \div 2$ is 5 and Bassem solved the problem in a correct way.

Notes for parents:

· Ask your child which operation comes first when solving the problems : $12 \div (4 - 1)$ and $6 + 4 \times 5$.



Example 1

Follow the order of operations to find the value of each expression.

b.
$$5 + 10 \div 5 = -----$$

c.
$$3 \times [4+6] =$$

e.
$$[5+3] \div 2 = -----$$

Solution [V]



a.
$$[8-2] \times 6$$

Do what is in the parentheses first, next multiply.

b.
$$5 + 10 \div 5$$

$$= 5 + 2$$

= 7

There are no parentheses, so divide first. Then add.

c.
$$3 \times [4 + 6]$$

= 36

$$= 3 \times 10$$

= 30

Do what is in the parentheses first, next multiply.

d. $6-4 \div 2$

= 4

There are no parentheses. so divide first. Then subtract.

e.
$$[5+3] \div 2$$

= 4

Do what is in the parentheses first, next divide.

f. $14 \div 7 \times 2$

 $=2\times2$

= 4

There are no parentheses. so divide and multiply from left to right.

Example 2

Follow the order of operations to find the result.

a.
$$15 + 24 \div 8 - 2 = ----$$

b.
$$15 + 24 \div [8 - 2] =$$

Solution [V]



a.
$$15 + 24 \div 8 - 2$$

$$= 15 + 3 - 2$$

There are no parentheses, so divide.

Then add and subtract from left to right.

b. $15 + 24 \div [8 - 2]$

$$= 15 + 24 \div 6$$

= 19

Do what is in the parentheses first.

next divide. Then add.

Check your understanding

Use the order of operations to find the value of each expression.

b.
$$[16+4] \div 2$$

C.	2 ×	5 -	8	÷	4
•••	_	_	U		-

[•] Ask your child why the values of 15 + 24 \div 8 - 2 and 15 + 24 \div (8 - 2) are different.

Learn 2 The order of operations and story problems

Read to Understand









Example 3

Maged walked 20 kilometers every week for 3 weeks.

The next week, he walked 15 kilometers.

How many kilometers did he walk over those 4 weeks?

Solution [V



What he walked = $20 \times 3 + 15$

$$= 60 + 15 = 75$$
 kilometers.

Example 4

Mohammed ran 8 kilometers on Saturday and twice that distance on Sunday. He ran 6 kilometers less on Monday than he did on Sunday.

How many kilometers did he run on Monday?

Solution W



What he ran = $8 \times 2 - 6$

$$=$$
 16 $-6 = 10$ kilometers.



There were 86 people on the pitch. 9 of them were coaches, and the rest wanted to play football. If they wanted to form teams of 11,

how many teams could they form?

Solution [V]



Number of teams = $[86 - 9] \div 11$

$$=$$
 77 \div 11 = 7 teams.





You should put parentheses to subtract first.





Check your understanding

Noha bought three books for 20 L.E. each. If she had 100 L.E., how much money was left with Noha?

Notes for parents:

· Ask your child to read each problem carefully and plan to solve each one, then ask him/her to look back to check his/her answer.

Exercise 37

on lessons 1&2

Order of Operations

▶ The Order of Operations and Story Problems

•	REMEMBER • UNDERS	STAND APPLY		From the school book
1.	Write correct if		are listed in the correct order f operations.	:
	a. $[9+3] \times 4$	Multiply, add	b. $2 \times [3+4]$	Add, multiply
	c. 20 ÷ [10 – 6]	Subtract, divid	e d. 27 – 14 ÷ 2	Subtract, divide
	e. 32 – 8 ÷ 2	Divide, subtrac	f. [23 – 11] ÷ 4 + 2	Divide, subtract, add
2.	Follow the stand	lard order of op	erations to solve.	
(M)	a. $26 + 5 \times 10 = -$			(Luxor 24)
	b . 3+8÷2=—			[Alex. 23]
	c. $16 \div 4 - 2 = -$			[Giza 23]
	d. $5 \times 6 - 12 = -$			
	e. 200 – 80 × 2 =	-	All of the second secon	
	f. 8 × 2 + 13 =			
	i. [28 – 16] × 4 =			
3.	Solve the problem	ms. Show your v	work.	
<u> </u>	a. 8 × 3 + 6 + 2 =			[Giza 24]
	b. $73 - 60 + 15 \div$	3 =		
	c. $4 + 4 + 5 \times 10$	=		
	d. $89 + 2 - 4 \times 3 = 3$			
	e. $[12 \div 6] + 3 \times 5$	i=		[El-Menia 24]
	f. $24 \div [7-1] - 2$	=		(Cairo 24)
	g. $24 \div [4-1] - 2$!=		[Cairo 24] [El-Beheira 24]

h. 7 + 12 × [4 + 6] = _____

i. 25-3×5+2=

j 10 + [8 × 10] – 20 =

[Cairo 23]

[Cairo 23]

[Cairo 24]

4. III Find The Answer Solve each problem. Locate the correct answer and write the equation under it. If the answer is not listed, rewrite the problem under "Other".

$$2+4\times6$$
 $48 \div 4+9$
 $7+70 \div 10-2$
 $49-7\times6+4$
 $8\times3+6+2$

$$24-8 \div 4+6$$

 $36 \div 9+4$
 $99-10 \times 9+7$
 $12-72 \div 12+2$
 $80 \div 10+6-3$

$$15 \div 5 + 4 + 1$$

 $15 - 7 + 2 + 6$
 $8 \times 2 + 24 - 12$
 $24 \times 36 \div 6 + 2$
 $40 - 7 \times 5 + 2$

8

11

16

28

32

Other

5. Which Does Not Belong? Solve the problems. Then, think about which problem does not belong in the set. Highlight or circle the problem you think does not belong and explain your thinking.

c.
$$60 + 20 - 50 = -$$

6. Talk About Math

Explain why the values of $8 + 6 \div 2$ and $[8 + 6] \div 2$ are different.

What is the value of each expression?

7. Who is Correct?

Saleem and Sarah both solved the problem $74 - 61 + 8 \times 5$.

Saleem says the answer is 105 and Sarah says the answer is 53. Who is correct?

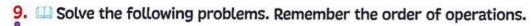
How do you know? Help the person who is not correct realize his/her mistake.



Solve the problems. Then, rewrite each problem more efficiently.

a.
$$67 + 67 + 67 + 67 + 67 - 15 = -$$

Story problems



a. Abdullah loves collecting stamps. He received 246 stamps for his birthday. He kept 25 of the stamps and now he wants to give the rest to 6 of his friends. How many stamps will each friend get if they share them equally?



- **b.** Maha walked 14 kilometers every day for 2 weeks. The next week, she walked 56 kilometers. How many kilometers did she walk over those 3 weeks?
- c. Ashraf has to take the bus to work. It takes 27 minutes to get to the bus stop near his job. Then, he has to walk for 12 minutes from the bus stop to his place of work. How many minutes does Ashraf spend going to work during a 5-day week?



- d. A group of tourists are taking a tour of Alexandria. There are 172 tourists and 8 tour guides in the group. They want to travel to the pyramids in microbuses. Each microbus fits 9 people. How many microbuses will they need in order to get everyone to the pyramids?
- **e.** Sita wants to bake berry muffins. Each muffin will have 6 berries in it. She buys 198 berries from the store. On the way home, she eats 17 of the berries. How many muffins can she make with the berries she has left?
- 10. Writing My Own Problem Write a story problem that can be represented by (50 36) ÷ 4.

Multiple Choice Questions

Choose the correct answer.

[El-Monofia - Sers El-Layyan 23]

- A. 14
- C. 1

- B. 6
- D. 16

2. 5 × 0 ÷ 3 = (El-Monofia 24)

- C. 8

B. 5 **D.** 508

[Port Said 24]

4. 18 ÷ 3 + 4 - 2 = -

[Cairo - El-Nozha 23]

A. 2

- **B.** 18
- C. 180
- **D**. 20

A. 8

B. 16

C. 2

D. 0

[Souhag 23]

- 6. $2+6\times4-8=$
 - [Cairo Al-Khalifa and Al-Mokattam 23]

A. 41

B. 27

C. 23

D. 14

A. 8

B. 10

C. 16

D. 18

7.
$$[25+5] \div 6 + 2 =$$
 [Port Said 24]

A. 8

B. 7

C. 10

D. 12

8. $20 \div [4+1] \times 2 =$ [Ismailia 24]

A. 22

B. 2

C. 8

D. 12

[Giza 23]

A. 15

B. 21

C. 11

D. 18

10. 24 ÷ [4 – 1] – 2 = ———

(Souhag 23)

A. 6

B. 10

C. 24

D. 48

11. 5+5+5+5+5-12=---

- **A.** $5 \times 6 12$ **B.** 20 12
- **C.** $5 \times 5 12$ **D.** $5 \times 5 + 12$
- Which is the first step in evaluating
 - 18 15 + 3 × 8 2? (Ismailia 23)

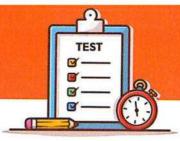
- **A.** 18 15
- **B.** 15 + 3
- C. 3×8
- **D.** 8-2

- 13. Which of the following = 6? [Giza 23]
- 14. Which of the following = 24? [Cairo 23]

- **A.** $3 \times 1 + 2$
- **B.** $12 + 6 \div 3$
- **A.** $3 \times [3 + 5]$
- **B.** $3 \times 3 + 5$

- **C.** $18-3\times4$ **D.** $24\div6+4$
- **C.** $3+3\times5$ **D.** $[3+3]\times5$

Unit Eight Assessment



1. Choose the correct answer.

1. $12 + 8 \div 4 = -$

[Alex. 24]

A. 5

B. 14

C. 16

D. 15

2. $20 \div 4 - 3 = ---$

[Port Said 24]

A. 20

B. 5

C. 2

D. 10

- 3. $3+3\times3=$
 - A. 6

B. 9

C. 12

D. 333

- 4. $12 + 30 \div 6 = -$
- A. 7

B. 17

- C. 48
- [El-Monofia Quesna 23]
- D. 19

- 5. $[8+2] \div 2 = -$

 - A. 4

6. 10 – 4 × 2 = ——

B. 5

- C. 7
- [Beni Suef 24] [Cairo El-Nozha 23]
- D. 12

[El-Monofia - Sadat 23]

A. 12

B. 2

C. 8

- D. 6
- 7. Noha walked 10 kilometers every day for 2 weeks. The next week, she walked 60 kilometers. How many kilometers did she walk over those 3 weeks?
 - A. 1,340 km
- B. 200 km
- C. 740 km
- D. 80 km

Complete the following.

1. 14 ÷ 7 + 20 = _____

2. 5+8÷2= ----

3. [3+3] × 4-1=

4. $24 \div [4-1] - 3 =$ [El-Monofia 24]

5. $100 - [4 + 7] \times 9 =$

[Cairo - Heliopolis 23]

6. 32 ÷ 4 – 6 = _____

[Giza - Awseem 23]

- 7. $40 \div 8 3 =$
- [Giza 23]
- 8. $15 + 20 \div 4 =$
- [Giza 23]

Choose the correct answer.

1. $6 \times 4 - 4 = -$

[Cairo - El-Shrouk 23]

A. 15

- **B**. 20
- C. 24

D. 64

2. $2+5\times6=-$

B. 32

C. 16

[El-Beheira 23] D. 60

3. 2×6+8=

[Cairo 24]

A. 20

A. 42

B. 25

C. 24

D. 22

4. 5×4+6=-

A. 26

B. 25

C. 50

D. 34

5. $24 \div 6 - 3 = -$

[El-Monofia 24]

A. 8

B. 1

C. 3

D. 9

6. $32 - 8 \div 2 = -$

[Alex. 24]

A. 12

B. 8

C. 28

D. 16

7. $20 \div 5 + 5 - 2 = -$

[Cairo 24]

A. 0

B. 7

C. 2R4

D. 8

4. Answer the following.

1. Use the order of operations to solve.

a. $55 \div 5 + 10 - 1$

[El-Menia 24]

b. $4 \times 10 + 25$

[Cairo 24]

2. Find the value.

a. $2 \times 3 + 20 \div 5$

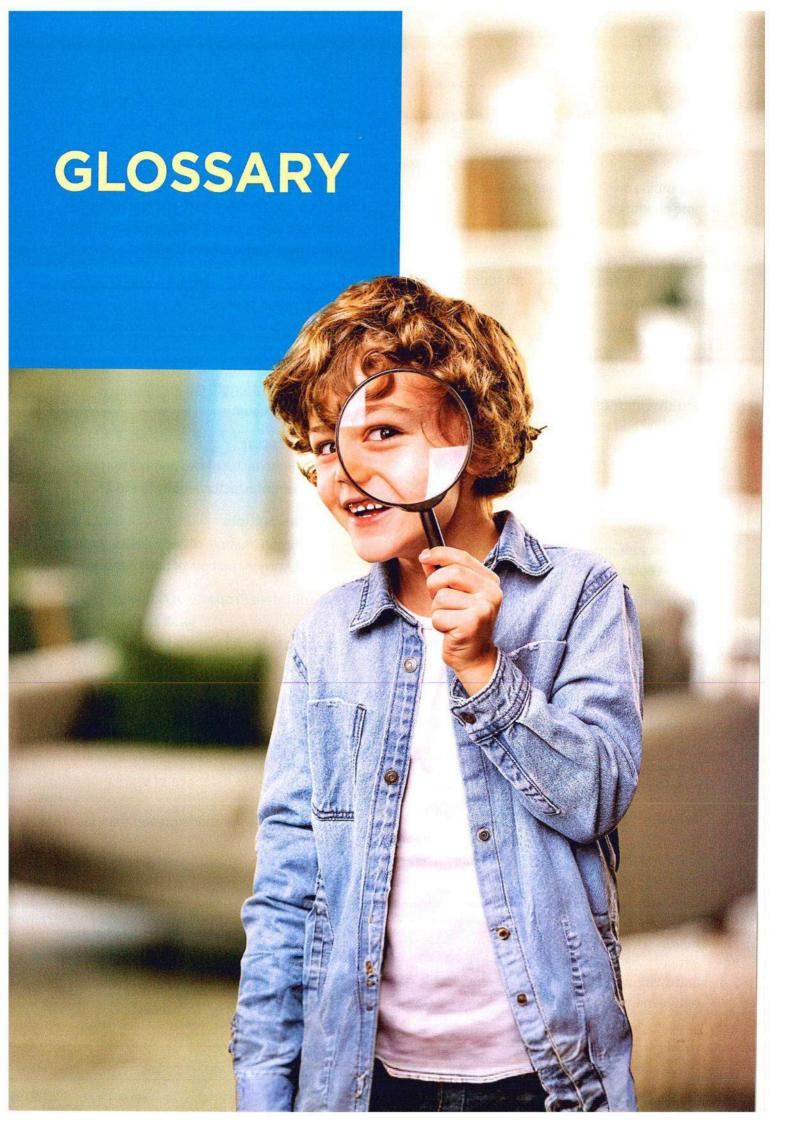
[Kafr El-Sheikh 24]

b. $3 + 8 \div 2$

[Alex. 24]

- 3. Mona walked 5 km. every day for 2 weeks. The next week, she walked 60 km.
- How many kilometers did she walk over those 3 weeks?
- 4. Edward has to take the bus to work. It takes 25 minutes to get to the bus stop near his job. Then, he has to walk for 15 minutes from the bus stop to his place of work. How many minutes does Edward spend going to work during a 5-day week?





A

a.m.

صباحًا [قبل الظهر]

A time between 12:00 midnight and 12:00 noon.

add

بجمع

To combine or join together; put together two or more quantities.

addend

عدد مُضاف

Any number being added. In the equation 6 + 8 = 14, six and eight are both addends, 14 is the sum.

additive comparison مقارنة باستخدام عملية الجمع Problems that ask how much more (or less) one amount is than another.

خاصية المحايد الجمعى Vhen you add zero to a number, the sum is that

same number.

algorithm

خوارزمية

A step-by-step method for computing.

area مساحة

The measure, in square units, of the inside of a plane figure.

area model

نموذج مساحة المستطيل

A model of multiplication that shows each place value product.

array

مصفوفة

An arrangement of objects in equal rows.

Associative Property of Addition

خاصية الدمج في عملية الجمع

Changing the grouping of three or more addends does not change the sum.

Associative Property of Multiplication

خاصية الدمج في عملية الضرب

Changing the grouping of three or more factors does not change the product.

bar model

نموذج شريطي

A model that uses bars to represent known and unknown quantities and the relationship between these quantities.

base

قاعدة

Any side of a plane figure. Usually thought of as a side where the figure "sits".

Base Ten numerals

أرقام نظام العد العشرى

Any of the symbols 0,1,2,3,4,5,6,7,8 or 9. The symbols can represent any amount based on a place value system of grouping by tens (also known as digits).

capacity

سعة

The amount of liquid a container can hold.

centimeter (cm)

سنتيمتر (سم)

A metric unit of length equal to $\left(\frac{1}{100}\right)$ of a meter.

common factor

عامل مشترك

Any common factor of two or more numbers. Six is a common factor of both 12 and 24.

common multiple

مضاعف مشترك

Any common multiple of two or more numbers. Six is a common multiple of both 2 and 3.

Commutative Property of Addition

خاصية الإبدال في عملية الجمع

Changing the order of the addends does not change the sum.

Commutative Property of Multiplication

خاصية الإبدال في عملية الضرب

Changing the order of the factors does not change the product.

compare

يقارن

To decide if one number is greater than, less than, or equal to.

compose

يكوِّن

To put together smaller numbers to make larger numbers.

Composite number

عدد غير أولى

A number greater than 0 that has more than two different factors

Customary system

نظام القياس المتعارف عليه

A system of measurement used in the United States. The system includes units for measuring length, capacity, and weight. Nearly everyone else uses the metric system.

day

يوم

The length of time it takes the Earth to make a complete rotation. 24 hours = 1 day.

decimeter (dm)

ديسيمتر [ديسم]

A metric unit of length. 1 decimeter = 0.1 meter; 10 decimeters = 1 meter. A hand span is about 1 decimeter.

decompose

بحلل

To separate number into two or more parts.

determine

يعيِّن

To decide or settle upon, figure out.

difference

فرق

The amount that remains after one quantity is subtracted from another. The answer in a subtraction problem.

digit

رقم

Any of the symbols 0,1,2,3,4,5,6,7,8 or 9. [Also known as Base Ten numerals.]

display

يعرض

To show, exhibit or demonstrate.

Distributive Property

خاصية التوزيع

When one of the factors of a product is a sum, multiplying each addend before adding does not change the product.

divide

يقسم

To separate into equal groups and find the number in each group or the number of groups. 56 split into 8 equal groups equals seven in each group, $56 \div 8 = 7$

dividend

مقسوم

A number that is divided by another number. 56 is the dividend in the above example.

divisible

قابل للقسمة

A number is divisible by another number if the quotient is a counting number without a remainder.

divisor

مقسوم عليه

The number by which another number is divided. 8 is the divisor in $56 \div 8 = 7$

elapsed time

وقت منقض

The amount of time that has passed (also known as time interval). Six hours elapse between 8:00 am and 2:00 pm.

equal

يساوي

Having the same value. 2 feet = 24 inches.

equation

بعادلة

A mathematical sentence with an equal sign. The amount on one side of the equal sign has the same value as the amount on the other side. 4+3=7

estimate

يُقدِّر

To find a number close to an exact amount, an estimate tells about how much or about how many.

expanded form

صبغة ممتدة

A way to write numbers that shows the place value of each digit. 263 = 200 + 60 + 3

fact family



مجموعة حقائق رياضية ذات صلة

A group of related facts that use the same numbers (also known as related facts). Fact family for $3,5,15:3\times5=15;15\div5=3$; $5\times3=15;15\div3=5$

factors

عوامل

The whole numbers that are multiplied to get a product. $6 \times 7 = 42$ [6 and 7 are factors.]

factor pairs

أزواج عوامل العدد

A set of two whole numbers that when multiplied will result in a given product. $2 \times 3 = 6, 1 \times 6 = 6$. The factor pairs for 6 are: 2 and 3,1 and 6

formula

قانون / قاعدة

A rule that is written as an equation.

 $A = l \times w$

gram [g]

جرام [جم]

The standard unit of mass in the metric system. 1,000 grams = 1 kilogram.

The mass of a paperclip is about 1 gram.

greater than (>)

أكبر من

Used to compare two numbers when the first number is larger than the second number.

horizontal

أفقى

Parallel to the horizon. Horizontal lines go from left to right or right to left.

ساعة hour (hr)

A unit of time. 1 hour = 60 minutes; 24 hours = 1 day.

مئات Hundreds

The value of a digit that is the third position from the right when describing whole number place value.

identify

يحدد

ىفسر

Recognize or distinguish, figure out what it is, name it.

Identity Property of Multiplication

خاصية المحايد الضربي

The property that states that the product of any number and 1 is that number: $n \times 1 = n$

interpret

To explain or tell the meaning of something.

inverse operations

عمليات عكسية

Operations that undo each other. Multiplication and division are inverse operations.

 $8 \times 5 = 40$ and $40 \div 5 = 8$

justify

يبرر

To show or prove to be right or reasonable.

kilogram [kg]

كيلوجرام [كجم]

A metric unit of mass equal to 1,000 grams. 1 kilogram = about 2,2 pounds.

kilometer (km)

كيلومتر [كم]

A metric unit of length equal to 1,000 meters.

length

طول

How long something is. The distance from one point to another. Length is measured in units such as centimeters, meters and kilometers.

One dimension of a 2-dimensional or 3-dimensional figure.

less than [<]

أقل من

Used to compare two numbers when the first number is smaller than the second number.

line plot

مخطط التمثيل بالنقاط

A diagram showing frequency of data on a number line.

liter [L]

لتر

The basic unit of capacity in the metric system. 1 liter = 1,000 milliliters.

mass

كتلة

The amount of matter in an object, usually measured by comparing with an object of known mass. While gravity influences weight, it does not affect mass.

صساب عقلی mental math or mental calculation

Calculations that are done in a student's head without pencil and paper, calculators or other aids.

آحاد

ترتيب

ترتيب العمليات

meter [m]

متر [م]

number

number line

a line.

Ones

order

compute.

A standard unit of length in the metric system.

metric system

النظام المتري

A system of measurement based on tens. The basic unit of capacity is the liter. The basic unit of length is the meter. The basic unit of mass is the gram.

milliliter (mL)

ملليلتر [مل]

A metric unit of capacity.

1,000 milliliters = 1 liter.

This holds about 10 drops or 1 milliliter.

millimeter

مللىمتر [مم]

A metric unit of length.

1,000 millimeters = 1 meter.

minute [min]

دقيقة

A unit used to measure a short amount of time.

model or visual model

نموذج أو نموذج مرئى

A picture or representation of a solution, a number or a concept.

month

p.m.

مساءً [بعد الظهر]

The time between 12:00 noon and 12:00 midnight.

parentheses

أقواس

Used in mathematics as grouping symbols for operations. When simplifying an expression, the operations within the parentheses are performed first.

The quantity we associate with a numeral. Often

A diagram that represents numbers as points on

The value of a digit that is farthest to the right

when describing whole number place value.

A set of rules that tells the order in which to

2. Multiply and divide in order from left to right.

3. Add and subtract in order from left to right.

A sequence or arrangement of things.

1. Do operations in parentheses.

Order of Operations

used interchangeably with digit and numeral.

partial product

ناتج عملية الضرب بالتجزئة

A method of multiplying in which the value of each digit in a factor is multiplied separately, and then the partial products are added together.

partial quotient

ناتج عملية القسمة بالتجزئة

A method of dividing in which multiples of the divisor are subtracted from the dividend, and then the partial quotients are added together.

pattern

نمط

A repeating or growing sequence or design. An ordered set of numbers or shapes arranged according to a rule.

There are 60 minutes in one hour.

شهر A length of time equal to 28,30 or 31 days.

12 months = 1 year.

multidigit

Having more than one digit (number). Seven [7]

is a single digit, where as seventy-two [72] and seven hundred forty-two (742) are multidigit numbers.

multiple

i orlina

متعدد الأرقام

A product of a given whole number and any other whole number. 12 is a multiple of 3 and 4 because $3 \times 4 = 12$

multiplicative comparison

مقارنة باستخدام عملية الضرب

A way to compare quantities using multiplication, as in "This tree is 3 times shorter than that tree".

multiply

يضرب

The operation of repeated addition of the same number. $3 \times 5 = 5 + 5 + 5$

305

perimeter

محبط

The distance around the outside of a figure.

period

فترة

In a large number, periods are groups of 3 digits separated by commas or by spaces.

place value

قيمة مكانية

The value of the place of a digit in a number.

prime number

عدد أولى

A whole number greater than 1 that has exactly two different factors, 1 and itself.

product

ناتج الضرب

The answer to a multiplication problem. In $6 \times 7 = 42,42$ is the product/answer.

Q

quotient

خارج القسمة

The answer to a division problem.

R

reasonableness

معقولية

An answer that is based on good number sense.

recognize

ىدىك

identify [someone or something] from having encountered them before; know again, remember.

rectangle

مستطيل

A quadrilateral with two pairs of congruent, parallel sides and four equal angles.

regroup

إعادة تسمية

To rearrange numbers into groups of 10 when performing mathematical operations.

related facts (fact family)

حقائق ذات صلة

Related addition and subtraction facts or related multiplication and division facts. Related facts for 3,5,8:3+5=8;8-5=3;

5 + 3 = 8; 8 - 3 = 5 (also known as fact family).

remainder

باقى القسمة

The amount left over when one number is divided by another.

repeated subtraction

طرح متكرر

Subtracting equal groups to find the total amount of groups [also called division].

represent

يعرض

To show or model.

round a whole number

تقريب عدد صحيح

To identify the nearest Ten, Hundred, Thousand, (and so on) and rename a number so it is easier to mentally add, subtract, multiply, or divide.

rule

قاعدة

something that happens every time [for example: 2,5,8,11 ... the rule is + 3].

S

second (sec)

ثانىة

A unit used to measure a very short amount of time. There are 60 seconds in one minute.

sequence

تسلسل

A set of numbers arranged in a special order or pattern.

sketch

رسم تقریبی سریع

A quick, rough drawing.

specify

عتّن

identify clearly and definitely.

square

مربع

A parallelogram with four equal angles and four equal sides.

square unit

وحدة مربعة

A unit, such as square centimeter, used to measure area.

standard form

صيغة قياسية

A common or usual way of writing a number using digits. 12,376 is in standard form.

subtract

يطرح

An operation that gives the difference between two numbers. Subtraction can be used to compare two numbers, or to find out how much is left after some is taken away.

sum

مجموع

The answer to an addition problem.

T

عشرات عشرات

The value of a digit that is the second position from the right when describing whole number place value.

Thousands

آلاف

The value of a digit that is the fourth position from the right when describing whole number place value.

time interval

فترة زمنية

A duration of a segment of time (also known as elapsed time).

ton

طن

A customary unit of weight. 1 ton [T] = 2,000 pounds. A metric ton, or tonne [t] is a unit of mass equal to 1,000 kilograms (about 2,200 pounds).

two-dimensional

У

ثنائى الأبعاد

Having length and width.

V

variable

متغير

A letter or symbol that represents a number. $5 \times b = 10$, b is a variable worth 2.

vertical

راسی

Perpendicular to the horizon. Vertical lines go up and down.

W

week

أسبوع

There are seven days in a week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. weight

وزن

The measure of how heavy something is.

whole

کامل

All of an object, a group of objects, shape or quantity.

whole numbers

أعداد صحبحة

The numbers 0,1,2,3 and so on, without fractions or decimals.

width

عرض

One dimension of a 2-dimensional or 3-dimensional figure.

word form

صبغة لفظية

A way of using words to write a number. The word form of 12,345 is twelve thousand, three hundred forty-five.

Y

year

عام

The length of time it takes the Earth to revolve around the sun. 12 months = 1 year; 365 days = 1 year; 366 days = 1 leap year.

Z

Zero Property of Multiplication

خاصية الضرب في صفر

The product of any number and zero is zero $8 \times 0 = 0$



Mathematics

By a group of supervisors



FREE PART



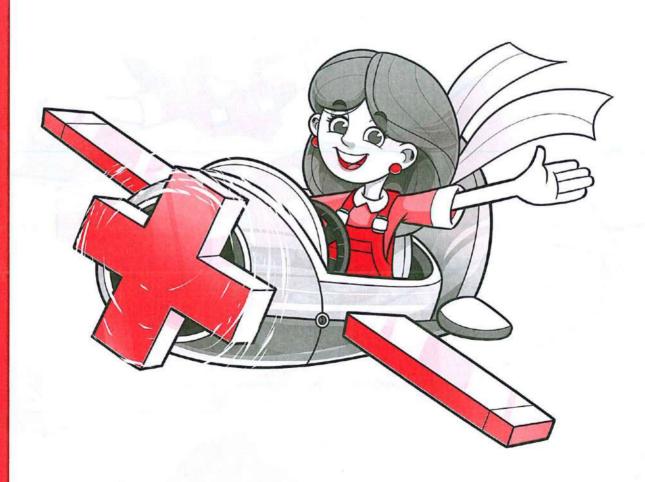
Monthly Tests

• General Revision

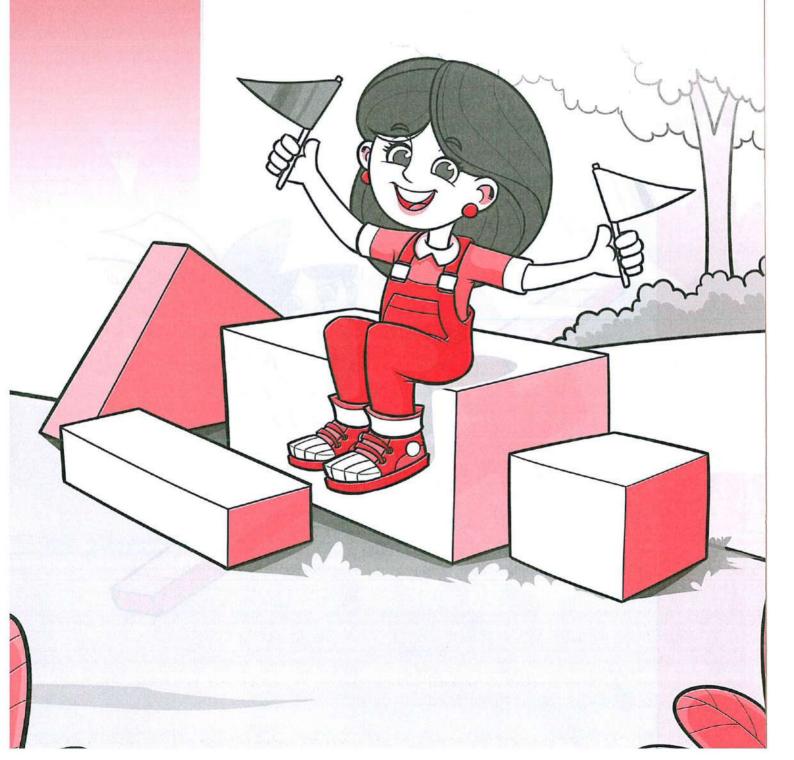
Directorates Exams

Th PRIMARY 2 0 2 5

- **▶ Cumulative Assessments**
- ▶ Monthly Tests
- **▶** General Revision
- **▶ Directorates Exams**







Cumulative Assessment

on UNIT 1

On lessons (1 & 2) unit 1

		-			
1.	Ch	oose the correct a	nswer.		
	a.	The digit	_ is in the Ten Millions	place in the number	346,870,251
		A . 8	B. 0	C. 5	D. 4
	b.	The value of the d	igit 3 in the number 23	,694,501 is	-
		A. 3,000		B. 30,000	
		C . 300,000		D. 3,000,000	
	c.	The value of the di number?	igit 4 in the number 42	780 is 10 times the v	alue of the digit 4 in which
		A. 146,703		B. 426,135	
		C. 34,651		D. 10,400	
	d.	= 5 mi	lliard, 5 million, 5 thous	sand, 5.	
		A. 5,050,050,005		B. 5,005,005,005	
		C. 5,555		D. 5,005,500,005	
2.	Co	mplete.			
			igit 0 in the number 7,0	156,219 is	
			ndreds in one million =		
	c.	The place value of	the digit 0 in the num	oer /U6,421,5/3 IS	
	d.	58,000 thousands	s = millions.		
	e.	3,400,371,600 =	milliard,	million,	thousand,
	f.	= seve	nteen milliard, sevente	een.	
3.	ln	the number 2,384,	,165,907, what digit is	in the	
	a.	Thousands place	?	b. Hundreds pla	ace ?
	c.	Ten Millions place	?	d. Ten Thousan	ds place?
	e.	One Milliard place	?	f. Tens place?	

Choose the correct answer.

- a. 5,000,000 + 40,000 + 8,000 + 700 + 20 + 3 =

 - **A.** 5,408,723 **B.** 5,048,723
- **C.** 5,084,723
- **D**. 5,048,273

- **b.** 4,800,000 = _____ thousands.
 - A. 48
- **B.** 480
- C. 4,800
- **D.** 480,000

- c. The number has 9 digits.
 - **A.** 36,423,100
- **B.** 8,614,000
- **C.** 125,000,694
- **D.** 167,282
- **d.** is the compose of $[6 \times 100,000] + [5 \times 10,000] + [3 \times 100] + [4 \times 10]$
 - **A.** 650,340
- **B.** 605,340
- **C**. 650,304
- **D**. 650,034

2. Complete.

- a. 34 millions, 905 thousands, 421 in standard form is _____
- **b.** The value of 7 in the number 720,358,014 is _____
- **c.** The expanded form of 5,614,003 is ______ + _____ + _____
- d. 450 thousands = _____

3. Complete the following.

Composed:

+ ______ + [7 × 10] + [5 × 1]

1	Millions	5	Th	ousar	nds		Ones	
Н	Т	0	Н	Т	0	Н	Т	0
6	1	8	=	0	_	3	-	

	Cumulat	ive Assessment	Till lessons (5 & 6)	
1.	Compare. Write (< , >	or =).		
	a. 43,600,287 43	3 millions ,700 thousa	nds and 286	
	b. 1,534,973 900	,000 + 90,000 + 4,000) +300+6	
	c. Seven millions, two	o hundred forty six the	ousands 70,000,000	_
	d. [5×10,000,000] +	[7 × 1,000,000] + [4 × 1	100,000] + (2 × 1,000) + (6 ×	(100) 1 milliard
2.	Choose the correct a	nswer.		
	a. 2,800 thousands >	·		
	A. 2,800 hundreds	5	B. 28,000 hundreds	
	C. 28 millions		D. 2 milliards	
	b. The place value of	6 in 6,482,759,310 is _		
	A. Millions	B. Ten Millions	C. Hundred Thousands	D. Milliards
	c. The number 42,36	5,978 has d	igits.	
	A. 10	B . 9	C. 8	D. 7
	d. The missing digit :	such that 8,000 + 100	+80+5>8, 85 is	
	A. 0	B. 1	C. 2	D. 3
	e. Which of the follow	wing statements is NO	TTRUE?	
	A. 6,947 < 6,974		B. 200,461 > 30,499	
	C. 9,999 > 10,000		D. 75,164 > 75,146	
	f. Which of the follow	ving numbers is small	er than "7,000,000 + 300,0	00 + 500 + 69"?
	A. 7,400,569	B. 7,003,569	C. 9,200,569	D . 10,300,569
3.	. Write a number that i	s less in the Ten Thou	sands place than 53,782 _	

4. Create a number that is smaller in the Ten Millions place than 745,864,251 $\,$

thousand, eight hundred.

5. Create a number that is greater in the Thousands place than six milliard, six million, eight

Till lossons (5 & 6) unit 1

4

Till lesson 7 unit 1

Choose the correct answer.

25.24	1A/L ! -L		resident Texasonal and	and the same to			
a.	vvnicn	choice shov	vs tne nu	mbers ir	n an asc	endina	order?

2. Seven hundred seventy-five

3, 765

4. Eight hundred five

C. 1. 572

2.500 + 80 + 1

3. Five hundred seventy-two

4.600 + 70 + 4

B. 1, 780

2. Eight hundred forty

3.800 + 50 + 1

4. One thousand

D. 1. Six hundred five

2.600 + 50

3. 674

4. Six hundred nine

b. Which digit makes the number sentence true? 3 million, 521 thousand, 432 < 3, 21,432

A. 3

B. 4

C. 5

D. 6

c. Which number sentence is true?

A. 74.562 < 9.000 + 800 + 50 + 6

B. 300,000 + 40 < 700,000 + 20

C. million < 792,561

D. Four hundred eighty two > 7 thousand,914

d. In the number 11,111, how many times is the digit in the Thousands place as the digit in the Tens place?

A. 10

B. 100

C. 1,000

D. 10,000

2. Complete.

b. Six milliard, four hundred two million, twenty-eight in standard form is _____

c. The value of the digit 4 in the number 3,456,261,852 is

d. _____ is 100 times fifty thousand.

3. a. List the following in an ascending order. Use standard form.

- 5,000,000,000 + 20,000,000 + 5,000 + 10 + 8
- 525 million, 508

Five milliard, three million, fifty three
 5,000,000,000 + 4,000,000 + 6,000 + 9

b. List the numbers in a descending order. Use the form in which they are given.

5 millions

500 thousands

• 770,322

9 millions and 3 hundred thousands

	Cumula	itive Assessmen	t 5 Till l	esson 8 unit 1
1.				each of the following numbers. The nearest Hundred]
2.	Use place value stra	tegy to round each	of the following.	
	a. 4,865 ≈			
	b. 7,985,462 ≈	(to the neares	st Hundred Thous	and)
	c. 99,999,862 ≈	(to the neare	est Million)	
	d. 54,321,782 ≈	to the neare	est Ten Thousand)	
3.	Choose the correct a	answer.		
	a. 78,562	9,000 + 800 + 50 +	- 4	
	A. >	B. <	c. =	
	b. 100,000 is	times 1,000		
	A. 10	B. 100	C. 1,000	D. 10,000
	c. Which number rou	und to 700,000 whe	n rounded to the n	earest Hundred Thousand?
	A. 706,999	B. 752,384	C. 799,999	D. 789,653
	d. 870 hundreds = _	tens.		
	A. 87	B. 8,700	C. 87,000	D. 870,000
	e. 2,357 ≈ 2,000 rour	nding to the nearest	t	
	A. Ten	B. Hundred	C. Thousand	D. Ten Thousand
	f. What is the smalle Hundred?	est number can be	rounded to 2,500 v	when rounded to the nearest
	A. 2,512	B . 2,492	C. 2,457	D. 2,543
4.	Write 5 different nun	nbers if rounded to	the nearest hundi	ed the result is 784,500
5.	Complete.			

Composed: 7,453,361,214

Decomposed:

Till lesson 1 unit 2

1. Choose the correct answer.

a. Fady wrote 994 + 0 = 994 using the _____ property.

A. additive identity

B. commutative C. associative

b. 70,000,000 + 8,000 + 50 + 1 _____ Seven million, twenty

A. >

B. <

C. =

c. Which number round to 3,500,000 when rounded to the nearest Hundred Thousand?

A. 3,562,531

B. 3,426,217

C. 3,524,261

D. 3,584,212

d. The value of the digit 6 in the number 63,785 is 100 times the value of the digit 6 in which number?

A. 46,521

B. 94,682

C. 241,261

D. 432,216

2. Complete.

a. $35 + 14 = 14 + \dots$

b. [134 + 65] + 99 = + [65 + 99]

c. 0 + 9,463 = _____

d. The additive identity is _____

e. The place value of the digit 5 in the number 3,512,006 is _____

Solve each problem and name the property used.

a. 17 + 8 + 3 —

b. 35 + 14 + 15 + 36 _____

4. Round 773,329

a. to the nearest Ten

b. to the nearest Ten Thousand —

7

Till lesson 2 unit 2

Choose the correct answer.

A. 37,215

B. 45,206

C. 37,216

D. 36,216

b. Which of these statements used only Commutative Property of addition to find 17 + 48 + 13?

A. [17 + 48] + 13 **B.** 17 + 13 + 48

C. 17 + [13 + 48]

D. [17+13]+48

c. 58,000 = _____tens

A. 58,000

B. 5.800

C. 580

D. 58

A. 762

B. 3,918

C. 3,156

D. 1,524

2. Estimate using rounding to the nearest 100. Find the exact answer.

3. Use the properties of addition to find the sum of 142 + 55 + 18 + 45

4. In a week 3,573 tourists visited Giza Pyramids and in the next week 4,230 tourists visited them. Find the number of tourists in the two weeks. [Round to the nearest Hundred]

5. Arrange in a descending order, using the forms which the numbers are written.

- 3 milliards, 50 millions, 40
- Three milliard, five hundred million, fourteen

• 3,000,786,562

3.000,000,000 + 20,000,000 + 400

The order is: ____



Till lesson 3 unit 2

1. Use the standard subtraction algorithm to solve the problem. Then, round each number to the nearest Ten to check the reasonableness of your answer.

2. Find.

3. Choose the correct answer.

- B. Tens
- C. Hundreds
- D. Thousands

7,000,000 + 80,000 + 6,000 + 900 + 80 + 9

c. Which one has the answer 12,987?

e. Which of the following represents the Commutative Property in addition?

A.
$$131 + 0 = 131$$

B.
$$5,670 = 5,000 + 600 + 70$$

C.
$$13 + [64 + 29] = [13 + 64] + 29$$

D.
$$120 + 71 = 71 + 120$$

4. A factory produced 2,879 toys in one week. The next week, the factory produced 3,267 toys. Find the difference between the production in the two weeks.

Cumulative Assessment	9	Till lesson 4 unit 2

-4	Compl	ata
1.	Compl	ele.

- a. The value of the variable K in the equation 2,103 K = 1,230 is -
- **b.** 5,467,219 = 2,000,000
- c. 4,621 + 62,504 = ___
- d. The place value of the digit 4 in the number 3,641,297 is _____

2. Choose the correct answer.

- a. The value of the digit 3 in the number 7,516,234,981 is -
 - **A.** 3,000,000,000 **B.** 300,000
- **C.** 30,000
- **D.** 3,000

- A. 241
- **B.** 1,855
- C. 7,426
- **D.** 1,000
- c. $[8 \times 1,000,000] + [7 \times 10,000] + [5 \times 100] + [6 \times 10]$ in standard form is
 - A. 87,560
- **B.** 8,070,560
- **C**. 8,700,560
- **D.** 870,560

- **d.** If x = 8 = 13, then x =
 - A. 5
- B. 4

C. 21

D. 22

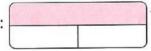
3. Solving equations with variable. Create a bar model.

a. s - 74,252 = 23,402

c. 47,261 - m = 31,422

Bar model:

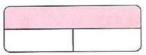
Bar model:



b. b + 4.261 = 21.253

Bar model:

Solution: -



Solution: -

d. 45,261 + k = 52,428

Bar model:

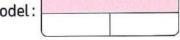
Solution: -



Solution:

4. A colony has 32, 425 male ants, if the colony has 74,319 ants, how many ants are female?

Bar model:



Solution:

5. Use the properties of addition to find the sum.

- a. 75 + 87 + 25
- **b.** 712 + 59 + 28 + 111 ____

10

Till lesson 5 unit 2

1. Complete the following.

- a. If b = 34,252 = 12,604, then b = _____
- b. The value of the digit 4 in the number 4,851,061,052 is
- c. 2,785,629,142 in expanded form is _____
- **d.** 15 + 5 + 7 = (15 + 5) + _____ [_____ property] = _____ + ____ = ____
- **e.** 47,562 2,853 = _____

2. Choose the correct answer.

- a. The value of the digit 8 in the number 381,452,671 The value of the digit 8 in the number 1,815,462
 - A. <
- B. =

- C. >
- b. The additive identity is _____
 - A. 10
- B. 1

C. 0

D. 2

- c. 115 + 367 = _____ + 115
 - A. 115
- **B.** 367
- C. 482
- D. 252

- **d.** 5,324 + 16,921 = _____
 - A. 54,222
- **B.** 22,254
- C. 2,245
- D. 22,245

3. Estimate using rounding to the nearest 100. Find the exact answer.

a. 5,646 - 2,389 b. 72,861 - 5,466

- c. 2,462 + 1,391 + 946
- 4. Port Said has a population of 782,180, if South Sinai has a population of 111,835 and North Sinai has a population of 450,528, how many more people does Port Said have than South Sinai and North Sinai combined?
- 5. A library sold 5,325 books in the first month, 9,712 books in the second month. If the library had 20,000 books, how many books are left?

11

Till lesson 1 unit 3

1. Convert the lengths into the units on the bar models.

3 cm
cm

b.

6 m
m

_

	m			
25 km	423 m			

2. Complete.

c.
$$7 \text{ km}$$
, $50 \text{ m} =$ _____m

3. Choose the correct answer.

d.
$$7 \, \text{dm}, 5 \, \text{cm} =$$
 cm

4. Find the result.

12

Till lesson 2 unit 3

1. Complete.

b.
$$8,875 g =$$
 kg, _____g

d.
$$37,852 \approx$$
 [Round to the nearest thousand]

2. Choose the correct answer.

- a. kg is a measuring unit of _____
 - A. length
- B. mass
- C. time

D. capacity

- **b.** 2 kg and 2 g = _____ g
 - A. 22
- **B.** 202
- C. 2,002

D. 20,002

- **c.** 700 g 17 kg
 - A. <
- B. =

- C. >
- **d.** 7,000 grams = _____ kilograms
 - **A.** 7,000
- **B.** 700
- C. 70

D. 7

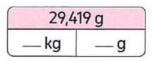
- e. _____ton = 5,000 kg
 - A. 50
- **B.** 500
- C. 5

D. 5,000

3. Convert the masses into the units on the bar models.

a. 8,782 kg
— ton — kg

b.



C.

— g				
52 kg	34 g			

4. List 21,000 g , 2 ton , 23,000 g , 25 kg from least to greatest

5. A car covers 2 km in one minute, what is the distance the car covers for 8 minutes in kilometers and in meters?

A CONTRACTOR		THE RESERVE
III SHIWA	Assess	antelan
 PIC-LUB A-		

13

Till lesson 3 unit 3

1. Find each missing number.

2. Choose the correct answer.

- a. In which number does the 5 have a value of fifty thousand?
 - A. 3,765,432
- **B.** 7,452,173
- C. 8,521,641
- D. 5,421,698

- b. Which of the following is the least capacity?
 - A. 7,000 mL
- B. 15 L
- C. 2,500 mL
- D. 4,200 mL
- c. The place value of the digit 6 in the number 3,562,147,209 is
 - A. Ten Millions
- B. Millions
- **C.** 60,000,000
- **D**. 6,000,000

- **d**. 7,800 g 24 kg
 - A. >
- B. <

- C. =
- **e.** The compose to $[4 \times 100,000] + [2 \times 10,000] + [7 \times 100] + [2 \times 1]$ is ______
 - A. 4,272
- **B.** 420,720
- C. 420,702
- **D.** 42,702
- 3. A car was filled with 25 liters ,400 millileters. At the end of the day , there were 10 liters , 230 milliliters left in the tank. How much petrol was used?
- 4. Use properties of addition to find the result and name the property you used.

5. Write four numbers that could be rounded to 340,000 when rounded to the nearest ten thousand.

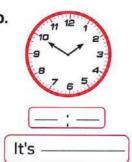
Till lessons (4 & 5) unit 3

1. Write the time in two ways.

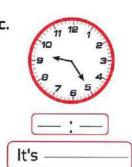


It's

b.



C.



d.



2. Complete.

b.
$$11 \text{ kg}$$
, $400 \text{ g} + 3 \text{ kg}$, $250 \text{ g} = 8 \text{ kg}$, 9 kg

Choose the correct answer.

Till lesson 6 unit 3

1. Choose the correct answer.

A. 7

B. 70

C. 700

D. 7,000

A. 35

B. 350

C. 3,500

D. 35,000

78 kg

78,526 q

X

c.
$$[7 \times 10,000] + [4 \times 1,000] + [5 \times 100] + [3 \times 10] - 7,453$$

A. >

B. <

A. 526 kg

B. 526 q

C. 526 m

D. 526 mL

A. 4:10

B. 4:50

C. 3:20

D. 7:40

2. Ahmed bought 5 m, 50 cm of cloth, he made a pair of trousers by 2 m, 25 cm What is the length of the left cloth with him?

3. The mass of Mina is 43 kg, 450 g and the mass of Sara is 34 kg, 900 g What is the total mass of Mina and Sara?

4. Complete.

c. If
$$x = 342 = 741$$
, then $x = _______$

5. Write the time in two ways.





It's

16

Till lesson 7 unit 3

1. (Choose	the	correct	answer.
------	--------	-----	---------	---------

	40 1 11	
a.	10 kilograms =	grams

A. 10

B. 100

C. 1,000

D. 10,000

A. 835

B. 8.350

C. 8,035

D. 83,500

A. Thousands

B. Ten Millions

C. Hundred Millions

D. Milliards

A. 8:05

B. 6:45

C. 5:25

D. 6:25

A. 97

B. 970

C. 9,700

D. 97,000

2. Complete.

a.
$$78,456 \approx$$
 _____ [to the nearest Ten]

c. If the total mass of 10 balls having the same mass is 120,000 grams, then the mass of each ball is _____ kg

d.
$$2 \text{ tons}, 20 \text{ kg} =$$
 kg

3. A tank with capacity of 70 liters is filled with 25,000 milliliters of water.

How many more liters of water are needed to fill it up completely?

4. Youssef studies 30 minutes every day. How many hours will he study in 6 days?

5. An ant may walk up to 5 km per day. If the ant continues this for 20 days, how many meters will the ant walk?

on UNIT 4

Cumulative Assessment

17

Till lesson 1 unit 4

1. Complete.

				0.000			
_	2	. 10	17	EU	_		
a.	. 5	: 15	TZ	ЭU	_	_	 _

2. Choose the correct answer.

A. 10

B. 20

C. 40

D. 100

b. The perimeter of the rectangle of 7 cm length and 3 cm width
$$=$$
 $-$

A. 10 cm

B. 10 cm²

C. 20 cm

D. $20 \, \text{cm}^2$

A. <

B. =

C. >

A. 37,356

B. 73,356

C. 28,072

D. 28,702

A. 500,000,000

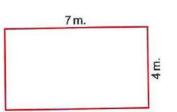
B. 5,000,000

C. 50,000,000

D. 500,000

3. Calculate the perimeter of each of the following shapes "Use two different formulas to solve each problem" Show your work.

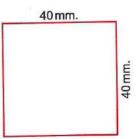
a.



First formula_

Second formula -

b.



First formula

Second formula _____

4. Shady is building a rectangular frame. Its length is 42 millimeters and its width is 28 millimeters. What will the perimeter of the frame be?

1. Choose the correct answer.

- a. A rectangle its length is 10 m and its width is 7 m, then its area = m²
 - A. 17
- B. 34
- C. 70

- **D.** 140
- **b.** A square of side length 7 cm, then its area = _____
 - A. 28 cm
- **B.** 28 cm²
- C. 49 cm

- D. 49 cm²
- c. The perimeter of the square = side length ×
 - A. itself
- B. 4

C. width

- D. length
- d. The place value of the digit 0 in the number 3,250,641,798 is ______
 - A. Millions
- B. Milliards
- C. Hundred Thousands
- D. Thousands

- e. 3L,25 mL = ____ mL
 - A. 325
- **B.** 28
- C. 3,025

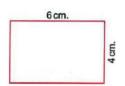
D. 30,025

2. Complete.

- a. 84,582 9,431 = _____
- **b.** 5,123 + 16,257 = _____
- c. $3 \text{ kg}, 3 \text{ g} = ___ \text{g}$
- **d.** If A = 423 = 147, then A =
- e. _____ hundreds = 730 tens
- f. 214 + [361 + 700] = [214 + 361] + _____

3. Find the area and the perimeter of each of the following figures.

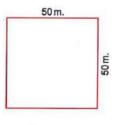
a.



Area = _____

Perimeter = _____

b.



Area = ______ Perimeter = _____ C.



Area = _____

Perimeter = _

4. Sketch two rectangles, the area of each one is 12 cm². Find the perimeter of each.

- a.

b.

P = _____

P=_____

19

Till lesson 3 unit 4

1. Complete each of the following.

a. A square has a perimeter 24 cm, then its area is _____

b. A square of area 25 cm², then its side length is _____

c. The area of a rectangle is $32 \,\mathrm{m}^2$ and its length is $8 \,\mathrm{m}$, then its width is -

d. 3:25+6:42 = _____

e. $37,856 \approx$ ______ [Round to the nearest 1,000]

2. Choose the correct answer.

a. Width of a rectangle = __

A. Area : length B. Area : width

C. Length × width

D. Area × length

b. A square whose area is 25 m^2 , then its side length = _____ m

A. 4

B. 5

C. 6

D. 7

c. 199 + 5.482 9.462 - 3.781

A. <

B. =

C. >

the side length of a square of area d. The side length of a square of perimeter 20 cm $49 \, \text{cm}^2$

A. <

B. =

C. >

e. 3 L,720 mL = _ ____mL

A. 723

B. 750

C. 3,720

D. 3,072

3. Write the time in two ways.

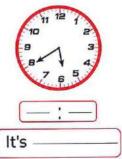
a.



b.



C.



d.

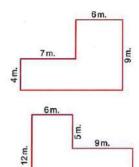


4. A rectangle of perimeter 20 cm. and its length is 6 cm. Find its area.

5. A colony of ants eats approximately 2,000 grams of food each day. If the ants have 10 kilograms of food stored, how many days will the food last?

1. Complete.

a. The perimeter of the opposite complex figure equals _____ m



- b. The area of the opposite complex figure equals _____ m²
- **c.** 7,000 g = kg
- d. The value of the digit 5 in 5,321,647 is
- **e.** 75 dm = _____ m, ____ dm
- f. The value of the digit 0 in the number 769,423,018 is

Choose the correct answer.

- a. 59,764 < _____
 - **A.** 59,000
- **B.** 49,999
- C. 59,765

- **D.** 59,763
- **b.** Hany wrote 325 + 0 = 325, using the _____ property.
 - A. commutative B. associative
- C. additive identity
- D. distributive

- c. $[3 \times 1,000] + [3 \times 10] =$
 - A. 330
- **B.** 3,030
- **C.** 3,300

- **D.** 30,030
- d. The perimeter of a rectangle with 7 cm long and 3 cm wide equals _____
 - **A.** 21 cm
- B. 20 m
- C. 21 cm²
- **D.** 20 cm

3. Find the result.

a. 2,456 - 1,999

- b. 356 149
- 4. Jana walked once around the squared playground. She covered a distance of 20 m What is the area of this playground?

Till lesson 1 unit 5

Choose the correct answer.

- a. 42 is _____ times the number 6.
 - A. 6
- B. 7

C. 8

D. 9

b. 8+8+8+8+8=

- **A.** $8 \times 8 = 64$ **B.** $4 \times 8 = 32$
- C. $6 \times 8 = 48$
- **D.** $5 \times 8 = 40$

c. 7.000 + 600 + 20 + 1> _____

- A. 7,921
- **B.** 8,006
- C. 6,997
- **D.** 9,300

d. _____mL=3L,124 mL

- A. 3,124
- **B.** 3,024
- C. 1,243
- **D.** 1,324

e. Milliard is the smallest _____ digit number.

- Δ 5
- B. 8

C. 9

D. 10

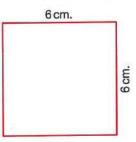
2. Complete.

- a. 24 is _____ times the number 8.
- b. The multiplicative comparison statement for

9 9 9 9 9 9 — is _____is ____times the number 9.

- **c.** 4 days = _____ hours
- **d.** 10 + 10 + 10 + 10 = _____ × ____ = ____
- e. The additive identity is _____

3. Find the area and the perimeter of each of the following figures.



Area = _____

Perimeter = _

Area = _____

Perimeter = ___

4. Compare, write the method you used.

- a. 64 and 8
- b. 36 and 4 —



722 Till lessons (2 & 3) unit 5

1. Write an equation for each comparison statement. Use a letter to represent the unknown. Solve the equation.

a. A number is 6 times the number 5

b. 40 is 5 times a number.

c. 70 is how many times the number 10?

2. Solve.

a. n=2×8 _____

b. 7 × k = 49 _____

c. b × 9 = 72 _____

Choose the correct answer.

a. 9 m - 80 cm =

A. 800

B. 820

C. 720

D. 980

b. If $z \times 8 = 32$, then z =

A. 4

B. 8

C. 2

D. 3

c. 341 + 596 = _____

A. 837

B. 997

C. 937

D. 255

d. What number is 8 times the number 12?

A. 120

B. 80

C. 128

D. 96

4. Complete.

a. 5 times the number _____ is 20.

b. 4 times the number 9 is _____

c. If $n \times 3 = 15$, then n =______

d. The place value of the digit 5 in the number 3,452,162 is _____

e. 3 tons = _____kg

Till lessons (4 & 5) unit 5

1. Complete.

Choose the correct answer.

- A. 28
- **B.** 108
- C. 1,180
- **D.** 180

- A. 560
- B. 56
- C. 5,600
- D. 87

- A. 50
- **B.** 500
- C. 55
- **D.** 5
- d. The perimeter of the rectangle with 8 cm long and 4 cm wide equals _____ cm.
 - A. 24
- **B.** 12
- C. 32
- D. 16

3. Put (< , > or =).



6 kg,550 g



1 + 258

c. 3×200



300 × 2

d. 8×6

- 6×8
- 4. Martin has 36 marbles. Write an equation using the Commutative Property of Multiplication to describe two ways he can arrange them.
- 5. Hany bought 4 mobiles, the price of each mobile is 3,000 pounds. How much did Hany pay?

74 Till lessons (6 & 7) unit 5

1. Solve each problem.

2. Complete.

b. The time



3. Use decomposing and the Associative Property of Multiplication to solve.

4. Ayman has 5 bags, each bag has 8 packs of coloring pencils, if each pack has 6 coloring pencils, how many pencils Ayman has?

5. Choose the correct answer.

a.
$$7,000,000 + 800,000 + 3,000 + 60 =$$

c.
$$26,473 \approx$$
 ______ [to the nearest Ten]

e. The value of the digit 7 in the number 3,576,241,198 is —

on UNIT 6

Cumulative Assessment

25

Till lessons (1 & 2) unit 6

1. Choose the correct answer.

- a. 4 is a factor of _____
 - A. 14
- **B.** 12
- C. 22
- D. 42

- **b.** 30 = 5 × _____
 - **A.** 6
- **B.** 5

C. 8

D. 7

- c. 48 is 6 times the number
 - A. 6
- B. 9

C. 7

D. 8

- d. _____ is a factor of 27.
 - A. 4
- **B.** 5

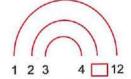
C. 9

- **D.** 10
- e. The missing factor in the factor rainbow is _____
 - **A**. 6

B. 12

C. 24

D. 36



2. Complete.

- a. All factors of 6 are
- b. _____ is the only even prime number.
- **c.** 76 × 1,000 = ____
- d. The value of 8 in the number 387,064,100 is _____
- **e.** 8 kg,8 g = _____g
- f. 789 mm = ____ cm , ____ mm
- **g.** The side length of a square = the perimeter of the square \div —

3. Write.

- a. All the factors of 32
- b. All the factors of 23
- c. All prime numbers between 20 and 40
- d. All composite numbers between 50 and 65



Till lesson 3 unit 6

1. Write the common factors of each pair of numbers.

a.	12	an	d	28
----	----	----	---	----

- b. 30 and 42
- c. 19 and 8

2. Complete.

- a. G.C.F of 18 and 40 is _____
- **b.** 100 × 24 = _____
- c. [5 × 8] × 7 = _____ × ____ = ____
- d. G.C.F of 10 and 25 is ______
- e. 3,275 ≈ _____ rounding to the nearest Hundred.

3. Choose the correct answer.

- a. The common factor of all numbers is _____
 - A. 1
- **B**. 0

C. 2

D. 10

- **b.** 38,265 m < _____
 - A. 38 km
- B. 38 km + 100 m
- C. 83 km
- **D.** 83 m

- c. 3 and 7 are factors of _____
 - A. 36
- B. 18

- C. 35
- D. 42

- d. 7+7+7+7=____
 - A. 4×7
- B.7 + 4
- C. 7×7
- D.7 + 7

- e. If 3,000 x = 1,391, then x = _____
 - A. 4,391
- **B**. 2,391
- C. 1,609
- D. 2,609

4. Bassem has 48 pens and 40 pencils, he wants to put them in packs so that each pack has the same number of pens and the same number of pencils. What is the greatest number of packs? What is the number of pens and pencils of each pack?

		Cumula	tive Assessment	Till lessons (4 & 5) unit 6
1.	Co	mplete.			
	b.	The smallest prim	tiple for all numbers is ne number is ———— 000 + 143 = ————	_	
	d.		ar model, the value of I		3,301 2,001
2.	Ch	oose the correct a	nswer.	H	
	a.	38,294,182 rounde A. 38,200,000	d to the nearest Hund B. 30,000,000	red Thousand is C. 38,290,000	D. 38,300,000
	b.	is a mu	ıltiple of 8.		
		A. 56	B. 42	C . 36	D. 18
	c.	is not a	multiple of 6.		
		A. 36	B. 0	C. 26	D. 24
	d.	0 is a common mu	ultiple of		
		A. 10 and 8 only.	B. all numbers.	C. 6 and 9 only.	D. 4 and 5 only.
3.	Lis	st.	Ř.		
	a.	All multiples of 3 (up to 30		
	b.	All factors of 36			15 ° II
	c.	Two common mul	ltiples of 2 and 5		

4. Bassem has a swimming practice every five days of July, beginning July 5

How many times he will go to his practice in July?

28

Till lesson 6 unit 6

1. C	omp	lete.
------	-----	-------

a. 19	5 is a multi	ple of 5.	then	is a facto	or of
-------	--------------	-----------	------	------------	-------

2. Choose the correct answer.

4. Find the relationship between the numbers in each group. Write at least two sentences describing each relationship.

29

Till lessons (1 & 2) unit 7

1. Complete.

a.
$$4 \times 95 = [4 \times ___] + [4 \times __]$$

2. Choose the correct answer.

A.
$$[8 \times 60] + [8 \times 50]$$

B.
$$[8 \times 60] + [8 \times 5]$$

C.
$$[8 \times 6] + [8 \times 5]$$

D.
$$[8 \times 6] + [8 \times 50]$$

3. Solve.

4. Mohamed bought 7 packs of candies, each pack holds 45 candies. How many candies with Mohamed?

Till lessons (3 & 4) unit 7

Choose the correct answer.

A.
$$36 \times 5 = 180$$

B.
$$52 \times 4 = 280$$

C.
$$28 \times 3 = 84$$

D.
$$47 \times 2 = 94$$

$$B.2 \times L + 2 \times W$$

C.
$$[L \times W] \times 2$$

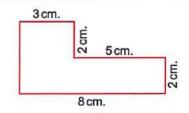
2. Complete.

f.
$$6 \text{ m} - 50 \text{ cm} =$$
_____ cm

Solve using partial products algorithm.

Find the perimeter and the area of the opposite figure.

b. The area =
$$-$$
 cm²



5. If the mass of a box is 131 kg, then find the mass of 7 boxes with the same mass.

31

Till lesson 5 unit 7

Choose the correct answer.

2. Complete.

b. If
$$6,426 + k = 10,384$$
, then $k =$ _____

3. Find the unknown side length based on the givens of each rectangle.

a.

b.

- 4. a. Dina bought 25 kg of mango and the price of 1 kg is 30 pounds. How much did Dina pay?
 - b. Write three numbers that round to 38,000

1. Complete.

Choose the correct answer.

f.
$$[45 \times 20] + [45 \times ___] = 45 \times 28$$

3. Find the quotient and the remainder.

4. Hany has 64 pounds, he wants to give the money to his three sons, how can he share the money equally? What is the remainder?

Till lesson 7 unit 7

1. Complete.

c.
$$42,000 \div 7 =$$

Choose the correct answer.

- A. 6
- B. 60
- C. 7
- D. 8

- A. 600
- B. 60
- C. 6

D. 6,000

c. A rectangle of length 18 cm and width 9 cm, then its area equals _____

- **A.** 162 cm
- B. 162 cm²
- C. 126 cm²
- D. 126 cm

d. _____ hundreds \div 4 tens = 5 tens

A. 200

e. 86 × 8 = ___

- **B**. 20
- C. 2

D. 2,000

- A. 688
- B. 886
- C. 868
- D. 588

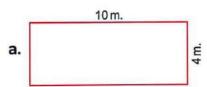
f. _____is a common multiple for 8 and 6

- A. 28
- B. 36
- C. 24
- D. 42

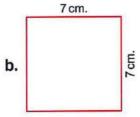
3. There are 320 tourists wanted to be seated in 8 buses. How many tourists are in each bus?

4. A rectangular flowerbed in the city park has an area 15 square meters. The width of the flowerbed is 3 meters. What is the length of the flowerbed?

5. Find the area and perimeter of the rectangle and the square.



Perimeter = _



Area = _____

Perimeter = ____

1. Choose the correct answer.

2. Complete.

a. 2,300,030,003 in word form is _____

b. The additive identity is _____

d. The multiplicative equation of
$$7+7+7+7+7=35$$
 is _____

e. The smallest odd prime number is _____

3. Use the area model to solve each of the following.

a.
$$84 \div 3$$



b.
$$216 \div 6$$



4. Solve.

35 Till lessons (9 & 10) unit 7

1. Complete.

a.
$$=$$
 \div 3 = 54

e. The area of the rectangle with 3 cm wide and 7 cm long =
$$-$$
 cm²

2. Choose the correct answer.

- A. 8
- **B.** 16
- C. 18
- D. 25

- A. 125
- B. 484
- C. 124
- D. 424

- A. <
- B. =

C. >

d. If
$$3,645 + X = 5,789$$
, then the value of X is _____

- A. 2,144
- **B**. 3,144
- C. 8,434
- D. 9,434

- A. 0
- **B.** 630
- C. 603
- D. 693

3. Divide using partial quotients algorithm.



4. Divide using standard division algorithm.

36

Till lesson 11 unit 7

1. Choose the correct answer.

a. If
$$73 \times 8 = 584$$
, then $584 \div 8 =$

A. 78

B. 73

C. 83

D. 87

b. In the problem 3,467
$$\div$$
 5, the quotient is between _____ and _____

A. 400,500

B. 300,400

C. 600,800

D. 1,000,2,000

A. 9

B. 8

C. 7

D. 6

A. 1,300

B. 1.003

C. 1,030

D. 103

e.
$$3,264 \div 3 =$$

A. 1,622

B. 1,880

C. 1,088

D. 1,808

2. Complete.

e. If
$$641 \times 7 = 4,487$$
, then $4,487 \div 7 =$

3. Amal has 358 L.E. She divided the money between her 2 children. What is the share of each one?

4. Write the division problem that matches the multiplication problem.

a. 421

×

$$6 = 2,526$$

b. 382 ×

$$2 = 764$$

c. $652 \times 8 = 5,216$

÷ = =

d. $578 \times 4 = 2{,}312$

÷ =

Till lessons (1 & 2) unit 8

1. Find the value of each of the following.

b.
$$8 + [12 - 5] \times 3 =$$

f.
$$4 \times 6 \div 8 + 7 =$$

2. Complete.

a.
$$36 - [4 + 2] \times 5 =$$

e.
$$[5 \times 1,000,000] + [8 \times 1,000] + [4 \times 10] =$$

f.
$$4.369 \approx$$
 ______ [to the nearest 100]

3. Choose the correct answer.

a.
$$30 \div 6 + 9 - 4 =$$

d.
$$3 \times 9 - [10 - 3] \times 2 =$$

f. If
$$18 - x = 6$$
, then $x =$

4. A group of 330 tourists wants to travel to Luxor, 154 tourists will take the train, the rest will take microbuses, each microbus holds 8 seats.

How many microbuses will be needed?

Monthly Tests

Month	Lessons	
October	From lesson (1) – Unit (1) to the end of lesson (5) – Unit (3)	
November	From lesson [6] – Unit [3] to the end of lesson [4] – Unit [6]	



October Test 1



1. Choose the correct answer.

1.	The period of the underlined digits in the number 25,613,729,114 is
----	---

- A. ones.
- B. thousands.
- C. millions.
- D. milliards.

- 2.2 days and 2 hours = hours
 - A. 22
- B. 4

- **C**. 62
- **D.** 50

- 3.721 cm = ----
 - A. 21 m ₂7 cm
- B. 72 m ,1 cm
- C. 7 m , 21 cm
- D. 1m ₂72 cm
- 4. Rounding the number 37,098 to the nearest thousand is _____
 - A. 37,100
- **B.** 37,000
- C. 37,108
- D. 37,098

- **5.**12 L ,50 mL = ----- mL
 - **A.** 62
- **B.** 5,012
- C. 1,250
- **D.** 12,050

2. Complete.

(5 marks)

1. The value of the digit 6 in the number 364,217,098 is _____

3. a. The population of Matrouh Governorate is 519,800 people, and the population of South Sinai Governorate is 112,200 people. Then what is the difference between the population of Matrouh Governorate and the population of South Sinai Governorate?

(2 marks)

b. By using the properties of addition find the sum of:

$$12 + 30 + 28 + 20$$

(3 marks)

October Test



1. Complete.

1.45 kg,
$$68 g = ----g$$

- 2. Three milliard, one hundred thirty-seven million, six hundred nineteen thousand, eighty-eight = ——— [in standard form]
- 3. Rounding the number: 8,532 to the nearest 1,000 is approximately
- 4. The place value of the digit 7 in the number 547,621,398 is _____
- 5.9 L 3,000 mL = ----- mL

2. Choose the correct answer.

(5 marks)

- 1. Milliard is the smallest number formed from _____ digits.
 - A. 6

B. 9

C. 10

- D. 12
- 2. The liter (L) is the basic unit of _____
 - A. length

B. mass

C. time

- D. capacity
- 3. The additive identity is _____
 - A. zero

B. 1

C. 10

- **D.** 100
- 4. $[5 \times 1] + [8 \times 1,000] + [4 \times 10,000] =$
 - A. 485

B. 4,805

C. 48,005

D. 480,005

- 5. What is the value of X?
- 35 + X = 47

A. 7

B. 12

C. 82

D. 72

3. a. The game started at 7 : 50 P.M. It ended at 10 : 05 P.M.

How long was the game?

(3 marks)

b. A bridge of ants consists of 142 ants, and another bridge consists of 165 ants. How many ants are there in the two bridges together?

(2 marks)

October Test



1. Choose the correct answer.

- 1.83,754 ______ 100,000
 - A. >
- B. =

- C. <
- **2**. 3,425 + 4,768 = 193 + --
 - A. 8

B. 80

C. 800

- **D.** 8,000
- 3. Which of the following is the greatest mass?
 - A. 900 q

B. 20,000 g

C. 70 kg

- D. 16 kg
- 4. Rounding the number 34,089 to the nearest ten thousand is _____
 - A. 34,000

B. 34,090

C. 30,000

- **D.** 35,000
- 5.35 million, 17 thousand, 230 = -
 - A. 3,517,230

B. 35,170,230

C. 35,017,230

D. 3,517,023

2. Complete.

(5 marks)

- 1. If 835 A = 751, then the value of A = ----
- 2.8 L, 200 mL 2 L, 50 mL = --- mL
- 3. The place value of the digit 2 in the number 9,152,747,180 is ____
- **4.** 50,000,000 + 345,000 + 730 = ----
- 5. 8,000 thousands = millions

3. a. Hany and Sameh participated in a project. Hany paid 251,650 pounds. If the cost of the project is 500,000 pounds, how much did Sameh pay?

(3 marks)

b. Write the numbers in a descending order.

(2 marks)

- 4,237,651 , 4,273,653 , 495,627 , 4,237,690

November Test 1





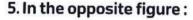
Choose the correct answer.

- 1. Which of the following is a multiple of 5?
 - A. 12
- B. 56
- C. 45
- D. 89

- 2. The missing factor in the box equals -
 - A. 6.000
- B. 600
- C. 60
- D. 6
- 3.45 is _____ times the number 9.
 - A. 40
- **B.** 5

C. 6

- D. 9
- 4. A square its side length is S. What is its perimeter?
 - A. S+S
- B. S×S
- C. 5 × 4
- D. S+S+S



The value of y is _____

- A. 4 cm
- B. 5 cm
- C. 6 cm
- **D.** 7 cm



The perimeter = 24 cm.

2. Complete.

(5 marks)

1. The multiplication equation of 8+8+8+8+8=40 is _____

3. a. Sandy purchased 3 kg , 400 g of sugar and 5 kg , 217 g of rice. What is the total mass which Sandy carried? (2 marks)



(3 marks)

November Test



		NOV	elliber lest 2		15	
1.	Choose the cor	rrect answer.			(5 marks)	
	1. The common	1. The common factor of all numbers is				
	A. 0	B. 1	C . 2	D. 3		
	2. If a × 33 = 33	×7, then a = ——				
	A. 33	B. 40	C . 7	D. 31		
	3. The length o	of a rectangle =				
	A . Area ÷ le	ngth	B. Area ÷ widt	h		
	C. Length ×	width	D. Area × widt	:h		
	4. If ants walk a	about 3,000 meters ea	ach day, then the ants w	alkkm		
	A . 3	B. 150	C. 15,000	D. 15		
	5. Which of the	following is not a pr	ime number?			
	A . 2	B. 7	C. 9	D. 11		
2.	Complete.				(5 marks)	
	1. If the area of	the opposite figure e	equals 25 cm ²	г	X	
		lue of x is			x	
	2. 160 =	tens				
	3. All the facto	rs of 10 are	_			
	4. 500 x 3 =					
	5. The perimet	er of the rectangle =	+_	_		
3.	a. Amal is put	ting a border around	the edge of a square ca	ake. One side of the ca	ke is 30 cm	
	long. How l	ong will the border o	f Amal's cake be ?		(2 marks)	
			e greatest common fact		(3 marks)	
					113	
	Common la	1005.				

G.C.F:___

November Test 3



1. Choose the correct answer.

(5 marks)

- 1. All the following numbers are composite except
 - A. 66
- B. 67
- C. 68
- D. 69

- 2. What number is 10 times the number 17?
 - A. 27
- B. 1,700
- C. 7

D. 170

3. The length of a rectangle is b, the width is c

What is its area?

A.b+c

B. b×c

C. $[2 \times b] + [2 \times c]$

- **D.** $[2 \times b] \times [2 \times c]$
- 4. If Marvina studied from 4:10 P.M. to 5:00 P.M., then she studied _____ minutes.
 - A. 60
- B. 110
- C. 40
- **D.** 50

- **5.** [200 × 3] × 0 = ----
 - **A.** 600
- B. 6,000
- C. zero
- **D.** 203

2. Complete.

(5 marks)

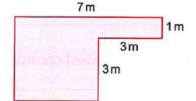
1. If $a \times 7 = 7 \times 8$, then a = -----

- 3. is 5 times the number 3
- **4.** 18 has ______ factors.
- 5. The perimeter of a square of side length 10 m is _____ m
- 3. a. Apply the properties of multiplication to find: $2 \times 3 \times 5$

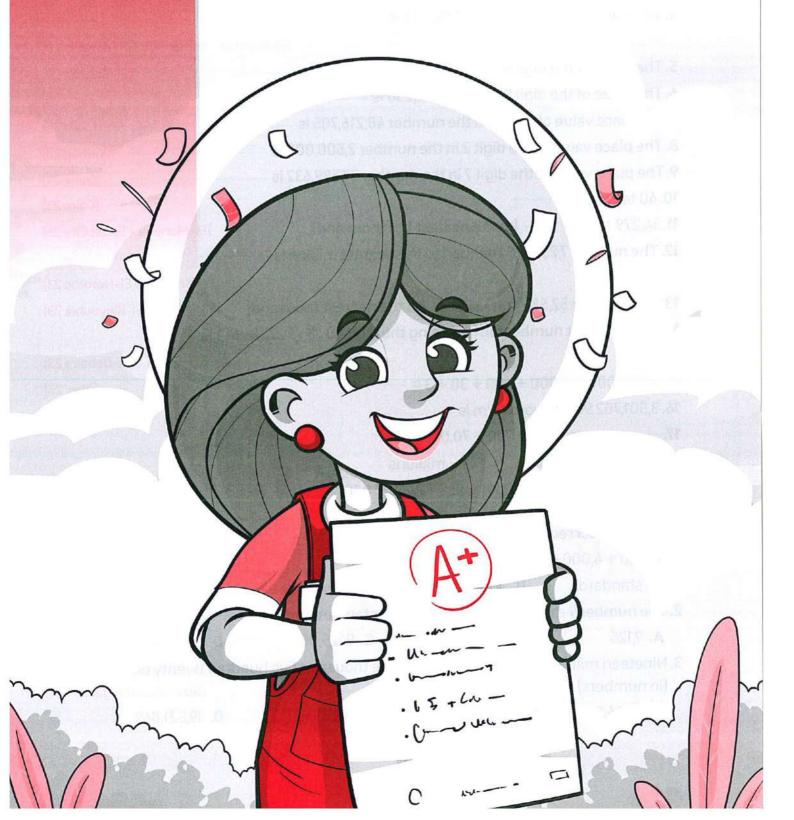
(2 marks)

b. Calculate the area and the perimeter of the following complex shape.

(3 marks)







General Revision

On Unit 1

1. Complete. 1. The number 163,518,943 to the nearest million is ———— (Cairo - Heliopolis 22) 2. The standard form of the number three million, two hundred fourteen thousand, nine hundred thirty-six is — [Giza - Dokki - 6th October 22] 3. The standard form of the number four hundred and nine is — [El-Monofia - Quesna 22] 4. The value of the digit 6 in 61, 230, 478 is _____ [El-Gharbia - Samanoud 22] [Ismailia 22] **5.** The value of the digit 6 in the number 61,230,478 is _____ [El-Beheira 24] The value of the digit 8 in 2,458,462,230 is — [Giza 24] 7. The place value of digit 8 in the number 48,216,705 is [Port Said 24] 8. The place value of the digit 2 in the number 2,500,000 is ———— (Souhag 23) 9. The place value of the digit 7 in the number 37,589,632 is — [Qena 24] 10.40 tens = -[Cairo 23] 11.34,279 \approx — [to the nearest ten thousand] [El-Monofia - Sadat City 23] 12. The number 7,257,365 rounded to the nearest million is — [Giza - Abo El-Nomros 23] 13. The number 32,586 \approx ——— [to the nearest thousand] [El-Kalyoubia 23] 14. The smallest number formed using the digits 0, 8, 3, 9, 5, 6, 1 is _____ [El-Beheira 23] **15.** 3,000,000 + 8,000 + 400 + 30 + 3 = ----[Alex. 23] **16.** 3,501,702,903 in word form is ———— **17**. ——— = 70,000,000 + 70,000 + 70 **18**. 8.000 thousands = — millions **19.** $[5 \times 100,000] + [3 \times 1,000] + [2 \times 100] + [7 \times 10] = ------$ Choose the correct answer. 1.90,000 + 4,000 + 300 written by -[El-Monofia 24] A. standard B. expanded C. word form D. otherwise

- 2. The number 9 million, 12 thousand, 5 (in standard form) = -
- [Port Said 24]

[Giza - October garden 24]

- A. 9.125
- **B.** 9.012.005
- C. 9,125,000
- **D.** 9,000,125
- 3. Nineteen million eight hundred sixty-nine thousand five hundred twenty one [in numbers] = -

A. 9,546,521

- **B.** 90,965,851
- C. 19,869,521
- **D.** 19,521,869

4.9,000,000 + 6,000 -	+ 50 + 6 =		[Port Said 24]
A. 9,656	B. 960,666	C. 9,006,056	D. 6,569
5. The number 1 millia	ard, 235 million and 12	7 in standard form = -	
			[El-Menia - Samalot 22]
A. 1,235,000,127	B. 1,235,127	C. 1,272,351	D. 1,235,127,000
6. The expanded form	of the number 7,215,6	603 is ———	[El-Fayoum 22]
	10,000 + 200,000 + 7		
	,000 + 20,000 + 700,0		
	+10,000 + 200,000 +		
	+1,000 + 200,000 + 7		
7. What is the standar			e thousand?
			[El-Gharbia - Samanoud 22]
A. 18,605,000	B. 81,605,000	C. 1,860,500	D . 18,650,000
			[Cairo 23]
	B. 2,345		
9. Million is the small			
			l-Monofia – Berket El-Saba 24]
A. 6	B. 7	C. 9	D. 10
10. Ten million in the	smallest number form	ned from ——— d	igits. (Ismailia 24)
A. 6	B. 7	C. 8	D. 9
11. The milliard is the	smallest number forn	ned from ——— d	igits. (Cairo 23)
A. 6	B. 7	C. 10	D. 9
12 . 756,324 ≈ ——	— (to nearest Ten Th	ousand]	[Giza – October Gardens 24]
÷17/.	B. 760,000		D . 700,000
	(rounding to nea	5.600000 7000	[Alex Agamy 24]
5658 0705 1907 L 070H	B . 10,000,000	C. 16,000,000	D . 15,000,000
	51 to the nearest milli	ard =	[El-Menia - Samalot 22]
	B. 7,000,000,000		D. 8,000,000,000
	resents rounding 32,5		
A. 30,000,000		C. 32,000,000	
16. When approximat			ed , it will be ———
			(Souhag 23)
A. 3,600	B. 3,700	C . 3,000	D. 3,620
		o make the mathema	tical expression correct?
6,201,351 > 6,20			[Ismailia 22]
Λ.Ω	D 1	C 2	D. 3

	18. Which of the foll	owing statements is	correct?	[Cairo - Heliopolis 23]
	A. 4646 < 4664	B. 4646 > 4664	C. 4664 > 4664	D. 4646 = 4664
	19. Which of the follo	owing is a correct asc	ending order?	[Cairo - Heliopolis 23]
	A. 757,573,508	,735	B. 573,757,735,	580
	C. 573,580,735	,757	D . 580,573,757,	735
	20. The place value	of the digit 8 in the nu	ımber 3,846,321 is —	
				[Cairo - Rod El-Farag 23]
	A. Millions		B. Hundred Thous	sands
	C. Thousands		D. Ten Thousands	
	21. The population of	a country is 56,724,03	3 , then the place value	e of the digit 6 is ————
				[Giza - Dokki 22]
	A. Thousands		B. Hundred Thous	ands
	C. Millions		D. Ten Millions	
	22. The value of the	digit 5 in the number		(Cairo - Rod El-Farag 23)
	A. 50	B. 500	C. 5,000	D. 50,000
			number of bees to th	
	thousands is —			[El-Monofia - Sers El-Layyan 23]
	A . 100,000	B. 10,000	C . 102,010	D. 12,090
3.	Answer each of the	following.		
	1. List the following r	numbers in a descend	ding order.	[Port Said 22]
	900 thousands,9	millions ,5 millions	and 7 hundred thous	ands,500,223
	2. Create a number in	the millions that is g	reater than 178,462,490	Cairo - Heliopolis 22
	3. List the following	in an ascending orde	r:	[El-Beheira 22]
	8,092,561,9,208,1	11,7,534,786,8,650,3	36	
	4. Arrange the follow	ving numbers in an as	scending order:	[El-Monofia - Sadat City 22]
	1,282,756 , 3,012,42	27,988,423,3,105,338	3	
	5. Write the number	2,445,232,197 in expa	nded form.	
	6. Round 556,536		98	
	a. to the nearest l	Hundred ————		
	b. to the nearest l	Hundred Thousand –		
	7. Decompose the fo	llowing number usin	g expanded form.	
	3 million , 166 thou	usand ,252		
	8. In the number 3,71	2,549 , what digit is ir	the	
	a. Hundreds place	e?	b. Ten Thousands	place?
	c. Millions place?			

General Revision

On Unit 2

4	Comp	-4-
	Como	PTP.
maile O	COLLID	

1. If 3,000 - B = 2,000, then the value of B = -----

[Cairo – Heliopolis 22]

2. — is the additive identity.

[El-Sharkia 22]

3. In the opposite bar model:

14,000				
n	7,000			

The value of n = ----

[Port Said 24]

4. Use the opposite bar model to solve the equation :

m = 350 = 650The solution:

[Giza 24]

5. In the opposite bar model:

The va	lue (of b	=-	

750				
230	b			

[Luxor 24]

6. The value of the symbol H in the equation
$$H = 1,590 = 3,410$$
 is ______

[El-Gharbia - Samanoud 22]

7. In the opposite bar model:

The va	lue of t	the unk	nown	k =	

اند تون	K
2,515	4,370

8. 284,615 – 196,392 = ——— [Port Said 22]

9. In the opposite bar model:

[El-Dakahlia 22]

[Damietta 22]

11.	In	the	ор	posite	bar	model:	

[Cairo - Rod El-Farag 23]

[Souhag 22]

12. The value of the variable in the equation :
$$b + 1,000 = 3,000$$
 is ————

13. 854 + 0 = ----

17. In the opposite bar model:

B = ----

	35
200	В

Choose the correct answer.

The additive identity element is ———

[Port Said 24]

- A. 0
- B. 1

C. 2

D. 3

A. associative

B. additive identity C. distributive

D. commutative

3.13 + 7 = 7 + 13, is the _____ property.

2. 14 + 8 = 8 + 14 is — property.

[Alex. 24]

- A. associative
- B. commutative
- C. additive identity D. otherwise

4.18 + 0 = 18---- property).

[Alex. 24]

- A. commutative
 - B. associative
- C. additive identity D. distributive.

[Cairo - Khalifa and Mokattam 22]

[Giza - October garden 24]

5.13 + 0 = 13, is the –

B. commutative property

A. associative property

- C. additive identity property
- D. None of the previous
- 6. Which equation would be best to include in an explanation of the commutative property of addition? [Cairo 24]

A.
$$3+0=3$$

B.
$$2+4=4+2$$

$$C.5 + 11 + 5 = 16 + 5$$

D.
$$10+3=7+6$$

7. Which of the following represents the commutative property in addition?

[El-Kalyoubia 22]

A.
$$635 + 492 = 492 + 635$$

B.
$$0 + 847 = 847$$

C.
$$[18 + 2] + 16 = 36$$

D.
$$1 + 131 = 132$$

125,217 - 2,345

[Giza 23]

(Giza 23)

A. >

B. <

C. =

9.25 + 99 = 24 + -

[Giza 23]

- A. 24
- **B.** 25
- C. 99
- **D.** 100

10.3+5=5+---

- A. 1
- B. 2

C. 3

D. 5

- 11.35 + 0 = -
 - A. 35
- **B**. 0

C. 1

D. 350

- 12. If 614 X = 600, then X = -
 - A. 11
- B. 12
- C. 16
- D. 14

13. 613 – 247 = —

[El-Sharkia 22]

[Alex. 23]

[Cairo 23]

[Giza 23]

A. 567

- B. 434
- C. 366
- **D.** 807

A. 253

- **14.** 253 + [226 + 142] = [253 + -**B.** 226
- C. 142

-] + 142

D. 368

15.6.199 + 8.049 = -

- **A.** 41,248
- **B.** 14,428
- C. 14,248
- D. 4.428

16. 91.024 + 32.549 = -

[Cairo - Rod El-Farag 23]

- A. 123,563
- **B.** 321,547
- C. 123,573
- D. 123,654

17.8,000 - 2,345 = -A. 10.345

- **B.** 6.345
- C. 5,655

18. If 500 + X = 625, then X = -

D. 5,565

A. 1,125

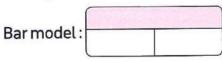
- **B.** 25
- C. 125
- D. 225

Answer each of the following.

- 1. Samir and Mohamed participated in a project. Samir paid 342,650 pounds, if the cost of [Cairo - Heliopolis 22] the project is 668,500 pounds, how much did Mohamed pay?
- 2. A bridge of ants consists of 142 ants, and another bridge consists of 165 ants. How many ants are there in the two bridges together?
- 3. A road of 675 km length, if a train traveled a distance of 239 km from this road [Giza - 6th October 22] , what is the remaining distance of the road?
- 4. The country has provided a vaccination against the corona virus. In the first stage, 1,653,465 people were vaccinated and 3,312,447 were vaccinated in the second stage. [El-Monofia - Quesna 22] What is the total number of people vaccinated in both stages?
- 5. Ali bought a laptop for 7,250 L.E. and a mobile for 4,000 L.E. How much money did he pay? [Cairo - Rod El-Farag 23]
- 6. If the population of Matrouh Governorate is 517,901 people and the population of South Sinai Governorate is 112,211 people, then what is the difference between the population [Cairo 23] of Matrouh and the population of South Sinai?
- 7. In the equation 710 + G = 930, find the value of G.

[Alex. - El-Montaza 23]

8. m - 35,462 = 2,741



Solution: -

[Ismailia 23]

9. In the equation K + 226 = 349, find the value of K.

[El-Menia 24]

General Revision

On Unit 3

1. Complete.

- 1.35 kilograms and 86 grams = ——— grams [Cairo 24]
- 3. 6 kilograms = grams [Ismailia 24]
- 4. 9,000 km = m [El-Menia 24]
- 5. 43 m = cm [Luxor 24]
- 6.5 km ,5 m = ----- m [Giza 24]
- 7.2 days = hours [Kafr El-Sheikh 24]
- 8. 2 liters = ____ milliliters [Alex. 24] [Cairo 24]
- 9. 9,000 grams = _____ kilograms [El-Beheira 24] [El-Menia 24]
- 10. 650 mm = ____ cm [Giza Dokki 22]
- 11. 35 kg and 86 g = -----g [El-Kalyoubia 22]
- 12. 32 L , 77 mL = mL (El-Dakahlia 22)
- 13. A week and two days = ——— days [Suez 22]
- 14. A jug of 10 liters of water. How many milliliters does it have? [Port Said 22]
- 15. 4 minutes and 20 seconds = seconds [Kafr El-Sheikh 22]
- **16.** 8 meters , 45 cm = cm [El-Fayoum 22]
- 17. 9,250 meters = ____ km + ___ m [Alex. West 23]
- 18. 9,000 mL = liters [Souhag 23]

 19. Convert to the unit shown on the model. 5 kg 275 grams
- 19. Convert to the unit shown on the model. 5 kg 275 grams

 ———— grams [Souhag 23]
- **20.** 8,000 grams = _____ kilograms [Cairo Rod El-Farag 23]
- **21.** 3 kg and 258 g = ——— g [Cairo 23]
- **22**.3:25+6:42 = (Cairo 23)
- 23. 5 weeks = ——— days [Giza 23]
- **24.** 6 m and 35 cm = —— cm [Giza 23]
- **25.** 9,000 mm = cm [Alex. 23]
- **26.** m = 350 dm [El-Sharkia Diarb Nagm 22]

2. Choose the correct answer.

- 1.10 weeks = _____ days. [Port Said 24]
 - **A.** 240 **B.** 70 **C.** 270 **D.** 600
- 2. 9 minutes and 10 seconds = seconds. (Cairo 24)
 - A 240 5 5/0 5 5/0
 - **A.** 310 **B.** 560 **C.** 550 **D.** 600

3.2 days =	-hours.		[Alex. 24]	
A. 180	B. 21	C. 48	D . 30	
4 . 4 hours =	— minutes.		[Alex. 24]	
A. 40	B. 300	C . 240	D. 60	
5. 5 hours =	— minutes.		[Luxor 24]	
A . 600	B. 24	c. 300	D. 500	
6.1 day and 5 hours	= hour	S	[Cairo - Khalifa and Mokattam 22]	
A. 29	B. 65	C . 15	D. 35	
7. 5 L = ml	<u>-</u>		(Giza 24)	
A . 5,000	B. 500	C . 50	D. 5	
8.13 liters and 30 ml	_=mL		[Giza - 6 th October 22]	
A. 1,330	B. 13,030	C . 43	D. 3,013	
9. 5 kg =g	I		[Port Said 24] [Cairo 24]	
A. 5	B. 50	C . 500	D. 5,000	
10. 423 cm =			[Cairo - Heliopolis 22]	
A. 23 m, 4 cm		B . 42 m ,3 cn	n	
C. 4 m, 23 cm		D. 3 m ,42 cm	n	
11.5,000 m =			[Kafr El-Sheikh 24]	
A. 5 mm	B. 500 cm	C. 6 cm	D. 5 km	
12. 12 km , 45 m =	m		(El-Monofia 24)	
A. 1,245	B. 4,512	C. 12,045	D. 1,200,045	
13. The best unit to n	neasure the dista	nce between two ci	ities is ———— (Alex. 24)	
A. meter	B. liter	C. mm	D. km	
14. Using the relation	nship between ur	nits of length, choos	se the correct answer to complete	
the following tab			[Alex West 22]	
	kilometer		centimeter	
	60	60,000	?	
A. 600	B. 6,000	C . 60,000	D. 6,000,000	
15. 6,325 g =			(El-Dakahlia 22)	
A. 6,000 kg,352	g	B . 63 kg, 25	g	
C . 60 kg,325 g		D . 6 kg ,325	70	
16. The capacity of a juice can is 1 liter and 500 mL, then its capacity in milliliters = — mL [Ismailia 22]				
A. 150		C. 15,000	D. 1,005	

	17. Adel spends 6 no	ours at school. If we wa	nt to calculate Adel's	school day in minutes		
	,we ———			(Suez 22)		
	A. add 6 to 60	B. add 6 to 24	C. multiply 6 by 60	D. multiply 6 by 24		
	18. 2 days and 2 hou	rs =hours		(Port Said 22)		
	A. 22	B. 4	C. 62	D. 50		
	19. 8 kilometers , 45	meters = m	neters	(Souhag 23)		
	A. 845	B. 855	C. 8,000,045	D . 8,045		
	20. 5 weeks and 5 da	ays =days		[Cairo - Rod El-Farag 23]		
	A. 55	B . 35	C . 40	D. 25		
	21. 10 meters =	centimeters		(Cairo 23)		
	A. 10	B. 100	C . 1,000	D. 7		
	22. 5 kg and 861 g =	g		[Cairo 23]		
	A. 5,861	B . 58,160	C. 5,000,861	D. 5,861,000		
	23. 3 liters = ———	milliliters		(Giza 23)		
	A. 3	B. 30	C. 300	D. 3,000		
	24. ——is a m	easuring unit of mass.	į.	[Giza 23]		
	A. km	B. Liter	C. Hour	D. kg		
	25. A week and 3 day	/s = days		[Cairo 24] [Souhag 23]		
	A. 7	B . 10	C. 13	D. 17		
3.	Answer each of the	following.				
	1. List the following l	engths in an ascendin	g order.	[El-Menia - Samalot 22]		
	8 m,8,000 cm,8	km,8 mm				
	2. The day is 24 hours	, how many hours are	there in 3 days?	[Giza 23]		
	3. Hossam sleeps 8 hours each day. [El-Monofia					
	How many minutes does Hossam sleep each day?					
	4. Amany is a swimmer. She spends half of an hour every day swimming. How many minutes in total does she swim for during a 5-days? [Aswan 2]					
	5. A train covers 2 km	n in one minute, what	is the distance the trai	in covers in 10 minutes in		
	kilometers and in I					
	6. The duration of a f	ilm show is 2 hr. ,15 mi	n. It starts at 3 : 30 P.M	. When will it end?		
	7. A fish tank with a c	apacity of 50 liters is fi	lled with 20,000 millil	iters of water. How many		
	more liters of wate	r are needed to fill it u	completely?			

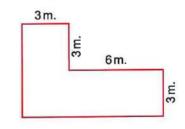
On Unit 4

1. Complete.

- 3. The perimeter of the rectangle of 6 m length and 4 m width = m [Alex. 24]
- 4. A rectangle has 7 cm wide, and 13 cm long, then its area = cm² [Alex. 24]
- **5.** A square has an area of 16 square centimeters, then its perimeter = ——— cm

 [Suez 22]
- 6. The length of the side of a square whose perimeter is 28 cm is _____ cm
- 7. Area of rectangle its length is 10 cm, width is 7 cm = ——— cm² (Cairo 24)
- 8. A square of side length 6 meters, then its perimeter = ____ meters [Souhag 23]
- 9. A square of side length 3 cm, then its perimeter = ——— cm [Cairo Rod El-Farag 23]
- 10. A square of side length 5 meters, then its perimeter = ——— meters [El-Beheira 24]
- 11. A square of side length 8 cm, then the perimeter = —— cm [Souhag 24]
- 12. A rectangle its length is 7 cm, and its width is 5 cm, then its area = ——— cm²

 [Cairo 23]
- 13. A rectangle has length (L) and width (W), its perimeter = _____ (Cairo 23)
- 14. A carpet in the shape of a square of side length 3 m, its perimeter = _____ m [Giza 23]
- 15. Area of a square = side length × ——— [Ismailia 23]
- 17. The area of the opposite figure equals ——— m²



[Alex. - Al-Agamy 23]

[Beni Suef 22]

- 18. The side length of the square = its perimeter ÷
- 19. The width of the rectangle = its area ÷
- 20. A square has a perimeter 12 cm, then its area is _____

2. Choose the correct answer.

1. A rectangle its length is [L] and its width is [W], what is its perimeter?

[El-Menia 24] [Cairo - Khalifa and Mokattam 22]

- **A.** L+W
- B. L×W
- C. $2 \times [L + W]$
- D. $[2 \times L] + W$

2. A rectangle its le	ngth 8 cm , its w	idth 4 cm , then its perime	eter = o	m (Cairo 24)
A. 16	B. 32	C. 28	D. 24	
3. The width of a re	ctangular room i	is 4 m and its length is 6 m		
, its area =			(Kafr	El-Sheikh 24]
A. 24 m ²	B. 60 m ²	C. 10 m ²	D. 30m^2	
4. A square of side l	ength 1 cm , the	n its area =cm²	2	[El-Menia 24]
A. 1	B. 4	C. 10	D. 14	
5 . The area of the so	quare of side len	gth 8 cm is ——— cm²	[Kafr	El-Sheikh 24]
A . 32	B. 24	C. 64	D. 16	
6. A rectangle its le	ngth = 7 cm , its	width = 5 cm, then its are	a =cm	² [Giza 24]
A. 12	B. 24	C. 35	D. 75	
7. Area of rectangle	with length 9 cm	m and width 6 cm =	cm ² [E	l-Dakahlia 22]
A. 3	B. 30	C. 15	D . 54	
8. A rectangle of ler	ngth 20 cm and v	width 10 cm , then its area	is equal	
to ——— squ				[Damietta 22]
A. $2 \times 20 + 2 \times 10^{-2}$)	B. $20 + 10$		
C. 60		D. 200		
9. Area of a square o	of side length 5 c	cm = cm ²		[Cairo 23]
A. 20	B. 25	C . 15	D. 30	
10. Perimeter of a so	quare of side len	gth 7 cm = cm		[Cairo 23]
A. 42	B . 28	C. 27	D. 14	
11. The perimeter of	the rectangle of	f 8 cm long and 2 cm wide	equals ———	[Souhag 23]
A. 20 cm	B. 20 cm^2	C . 16 cm	D. 16 cm ²	
12. The perimeter of	f a square is 40 c	m , then its side length = -	cm	(Cairo 23)
A. 4	B. 1,600	C . 160	D. 10	
13. A rectangle has l	length 30 cm and	d width 5 cm , then its area	a = cm ²	2
A. $5 + 30 \times 2$	B. 70	C . 150	D. 300	
14. Area of rectangle	e = length ×			(Ismailia 23)
A. itself	B. width	C. 4	D. height	
15. The area of the s	quare whose sid	de length is 6 cm =	— cm²	(Souhag 23)
A. 11	B. 30	C. 24	D. 36	
16. The perimeter of	the square who	se side length is 5 cm is —	cm	(Giza 23)
A. 10	B. 15	C . 20	D. 25	
	ngle with 7 cm lo	ong and 3 cm wide equals	cm ²	(Giza 23)
A 20	B 21	C 24		

18. A square of side	e length 8 cm , then	its perimeter =	cm	[Alex. 23]
A. 16	B. 24	C. 32	D. 40	
19. A rectangle wit	n an area 30 cm² , if	its length is 6 cm , ther	n its width equa	ls
A. 6 cm	B. 5 cm	C. 11 cm	D. 30 cm	
3. Answer each of th	e following.			
1. A rectangular gy	mnassium with 7 m	neters long and 4 mete	rs wide.	
Find its perimete	er.		[Cair	ro - Heliopolis 22)
2. A squared pictur	re with side length (8 cm , Hussein wants to	o make a piece o	of glass to
cover this pictur	e , what is the area	of the glass piece?		[El-Kalyoubia 22]
3. A square-shape	d room has a side le	ength 4 meters.		
		e room in square mete	rs?	(Souhag 22)
		th 3 cm. Find the perim		Rod El-Farag 23)
		whose length is 16 cm		
is 14 cm				(Cairo 23)
6. Amgad has a ga	rden in a squared s	hape with side length (6 m , what the a	rea
of this garden?		•		[Giza 23]
7. Find the area an	d the perimeter		6 cm	
of the opposite f		(Ismailia 23)		
A =			-11 cm.	2
P =			£	
•				3ст.
				12 cm.
8. Find the perime	ter of each of the fo	llowing figures.		(Souhag 23)
	_		_	
	Ė	_	Ė	
a.	4 cm.	b.	5 cm.	
6 cm.		5 cm.		
9. The side length	of a square is 7 cm	find its :		(Ismailia 24)
a. perimeter		b. area		

On Unit 5

1. Complete.

2. If
$$A \times 6 = 18$$
, then $A = -$

6. Maha saves 10 pounds of her expenses every day. How much does she save per week?

12.12
$$\times$$
 45 = \times is called commutative property.

Choose the correct answer.

1.15
$$\times$$
 17 = 17 \times 15 represents the —

(Giza 24)

A. 5

B. 8

C. 7

3. If
$$7 \times 5 = a \times 7$$
, then $a = -$

5. If
$$a \times 13 = 13 \times 7$$
, then $a = ----$

6. 6 × 0 = ———				[El-Menia 23]
A. 0	B. 1	C. 2	D. 3	
7. Which of the follo	wing represents the a	ssociative property?		
A. $11 \times 129 = 129$	× 11	B. $2 \times [5 \times 3] = [2 \times 5]$	5]×3	[El-Beheira 23]
C. $0 \times 17 = 0$		D. $[2 \times L] \times W$		
$8.5 \times 7 = 7 \times 5 \text{ the p}$	roperty is called ——			[El-Beheira 23]
A. associative	B. commutative	C. additive identity	D . none of t	he previous
9. 25 × 32 = 32 × —			(E	l-Kalyoubia 23)
A. 32	B. 25	C. 30	D. 20	
10 . 4 × 100 =				
A. 40	B. 400	C . 4,000	D . 40,000	
11. If 850 × m = 850	, then m =			(Ismailia 23)
A. 1	B. 850	C. 2	D. 0	
12. Which choice be	st shows the zero prop	erty of multiplication	? (Cairo	- El-Nozha 23)
A. $1 \times 5 = 5$		B. $9 \times 6 = 6 \times 9$		
C. $6 \times 10 = 60$		D. $0 \times 5 = 0$		
13.10 times the nun	nber 275 =			
A. 2,750	B. 27,510	C. 10,275	D . 275,000	
14.3 times the num	ber 8 is ———			[El-Menia 24]
A. 2	B. 14	C. 24	D. 54	
15.10 times the nun	nber 43 =			[Port Said 24]
A. 430	B. 4,300	C. 43,000	D. 430,000	
16. 640 hundreds =	tens			[Luxor 24]
A. 64	B. 64,000	C. 640	D. 6,400	
17. The number 18 is	6 times the number –			[Beni Suef 24]
A. 2	B. 3	C. 6	D. 9	
18. 36 is — t	imes the number 9			[Port Said 24]
A . 6	B. 4	C. 5	D. 7	
19. The number 30 e	quals 5 times the numb	oer		(Cairo 24)
A. 3	B. 4	C. 6	D . 8	
20. 25 is 5 times as n	nany as ———			(Port Said 24)
A. 5	B. 10	C. 15	D. 125	

21. 45 is	times the number	er 5	(Cairo - Al-Khalifa and Al-N	4okattam 23]
A. 9	B. 6	C. 5	D. 40	
22. The number	er 42 is 6 times the nur	mber		[Giza 23]
A. 7	B. 9	C . 8	D. 5	
23. The number	er 30 equals 5 times th	ie number	[Cairo	- El-Marg 23)
A. 6	B. 5	C. 150	D. 25	
24. A building i	s 20 meters high. A br	idge is 5 meters lon	g. How many times	
the buildin	g is longer than the br	idge?	[Alex A	Al-Agamy 23)
A. 3	B. 4	C. 15	D. 10	
25. In the equa	tion $6 \times b = 42$, then	b =	[Al	ex West 23)
A. 8	B. 5	C . 6	D. 7	
26. 34×	= 3,400		[Al	ex West 23]
A. 1	B. 10	C. 100	D. 1,000	
27. 80 × 60 = -	× 100			(Giza 23)
A. 84	B. 80	C. 48	D. 4,800	
28. 2 × [5 × 4] =	[2×]×4			(Souhag 23)
A . 0	B. 1	C . 10	D . 5	

3. Answer each of the following.

- 1. Sarah walked 5,000 meters every day for 9 days, what is the total number of kilometers that Sarah walked? (Cairo El-Shrouk 23)
- 2. Mariam bought 4 mobiles, the price of each mobile is 1,000 pounds, how much did
 Mariam pay ?
- 3. Ahmed bought 10 pens, if the price of a pen is 200 piasters, what is the price of all pens?
 [Giza 23]
- **4.** Ali travelled 8 days continuously, he travelled 3,000 m each day. How many kilometers did he travel in all? [Souhag 23]
- 5. Ayman ate 4 figs in the morning. His older brother ate 3 times as many. How many figs did his brother eat?

 [Giza 6th October 22]
- **6.** Hany works 30 hours a week. If he gains L.E. 8 per hour. How much does Hany gain in a week?

On Unit 6

-Mokattam 22] [El-Monofia 24]
[Ismailia 24]
[Souhag 24]
5 ———
[El-Monofia - Quesna 22]
[Luxor 24] [El-Dakahlia 22]
[Damietta 22]
[El-Menia - Samalot 22]
[El-Monofia - Sadat City 23]
[Beni Suef 24]
[El-Menia 24]
12 1 2 3 4 12 1-Monofia - Sers El-Layyan 23
[Ismailia 24] [Cairo 23]
(Giza 23)
s and
(Giza 24)
numbers 7 and 3
Factors of 18 1

Choose the correct answer.

- 1. The only even prime number is [Cairo 24]
 - **B**. 3

[El-Beheira 24]

D. 6

- 2. Which of the following is a prime number? A. 10
 - B. 15

- C. 19
- D. 21

- 3. The common factor of all numbers is —

- A. 0
- B. 1

C. 2

[El-Menia 24] [Port Said 24] **D**. 3

[Cairo - Heliopolis 22]

- 4. Which of the following is NOT a multiple of 7? **B**. 63
 - C. 707
- D. 27

- 5. Which is NOT a common multiple of 9 and 6?
- [Cairo El-Khalifa and El-Mokattam 22]

- A. 36
- B. 54
- C. 27
- **D.** 18
- 6. Which number is the greatest common factor [G.C.F] of 12 and 6?
 - A. 2
- **B**. 3

C. 6

- **D.** 12
- [Alex. West 22] [El-Dakahlia 22]

[Cairo 24]

[Cairo 24]

[Port Said 22]

[Beni Suef 22]

[Giza 24]

- 7. The prime number has _____ factors only. A. 0
 - **B**. 1

D. 4

- 8. The multiples of 6 is ______, A. 2,4,6,8
 - B. 6,12,18,24
- C. 4,8,12,16
- D. 3,6,9,12

9. The number 27 is a multiple of the number —

[El-Monofia 24]

- **B**. 8

- D. 2
- 10. The number whose factors are 1,3 and 9 is —

[El-Menia 24]

- B. 9

- C. 12
- **D**. 13

- 11. The number ______ is a factor of the number 63

- B. 9

- D. 12

- 12. _____ is a factor of 63
 - **B.** 5

C. 7

D. 11

- 13. The list of all the factors of 16 is —
- C. 1, 2, 4, 8, 16
 - D. 1, 2, 4, 6, 8, 16

- **A.** 1,16
- 14. _____ is the smallest prime number.

B. 2,4,8

- A. 0
- **B.** 1

C. 2

[El-Monofia - Sadat City 23]

- 15. are the factors of 6

D. 3

- A. (2,3)
- B. (1,6)
- C. (1,2,3,6)
- D. (1,2,4,6)

- 16. The number _____ is a multiple of 10
- [Port Said 24]

- A. 2
- **B.** 5

- C. 15
- **D.** 20
- 17. The number 16 is a common multiple of _____
- C. 5 and 3
- [Alex. 24]

[El-Monofia - Sadat City 23]

A. 2 and 4

18. _____ is a factor of 14.

- **B.** 7 and 2
- D. 8 and 9

- A. 2
- **B**. 3

C. 4

19. The even numb	er which is a mult	tiple of: 3,4,6 togethe	r is	(Aswan 23)
A. 20	B. 18	C. 28	D. 12	
20is a	multiple of 2			(Aswan 23)
A. 3	B. 5	C. 11	D. 8	
21. Which of the fol	lowing is a prime	number?		[El-Menia 23]
A . 4	B. 7	C. 15	D. 18	
22. is a d	common multiple	of all numbers.		[El-Menia 23]
A . 0	B. 1	C . 2	D. 3	
23. The smallest of	dd prime number	is		(Cairo 23)
A . 0	B. 1	C. 2	D. 3	
24. 25 is a multiple	of			[Cairo 23]
A. 5	B. 7	C. 9	D. 10	
25. 30 is a multiple	of			[El-Beheira 23]
A. 8	B. 7	C. 6	D. 4	
26. The number —	is a facto		(C	airo - El-Salam 23)
A. 16	B . 24	C . 32	D. 4	
Answer each of the	e following.			
1. Find the G.C.F of 2	25 and 35			(Giza - Dokki 22)
2. Write all factors	of the number 24	, then decide if the nun	nberis	
a prime or comp	osite.		(Giz	ra - 6 th October 22)
3. Write the commo	on factors of 12 an	d 18, then find the grea	atest	
common factor [G.C.F].			[El-Sharkia 22]
4. Find the G.C.F of	14 and 21			[El-Monofia 24]
5. Find the G.C.F of	16 and 24		(Al	ex. 24) [Ismailia 24]
6. Find the G.C.F of	20 and 15			(Port Said 24)
7. Find the G.C.F of 3	30 and 45			(Ismailia 22)
8. An even number	between 20 and 3	30 some of its factors		
include:1,2,4	,7 and 14. What is	it?		[Suez 22]
9. Find 4 multiples	of the number 9			(El-Monofia 23)

On Unit 7

1. Complete.

1. The product of: 5 × 2,523 is equal to _____

[Aswan 23]

 $2.512 \div 8 = -$

[El-Kalyoubia 23]

 $3.363 \div 3 = -$

[El-Menia 24]

 $4.535 \div 5 = -$

[Giza 24]

5. 778 ÷ 2 = -----

[Giza 24]

6. 5 ÷ 4 = -------, remainder ------

[Alex. 23]

7. In the opposite model:

(Souhag 23)



 $8.5 \times 467 = 5 \times 400 + 5 \times ----+5 \times 7$

(Ismailia 23)

9. 4.000 ÷ 4 = ----

[Cairo - El-Nozha 23]

10. 23 ÷ 5 = 4 R _____

[Cairo 23]

11.912 ÷ 3 = ----

[Alex. - West 23]

12.550 ÷ 5 = ----

[Giza - Awseem 23]

13. If $641 \times 7 = 4,487$, then $4,487 \div 7 = ----$

[Giza 23]

14.26 \div 5 = — and remainder —

(Ismailia 24)

15.17 × 6 = --

[Cairo 24]

16. The quotient in 480 ÷ 10 = 48 is _____

[Souhag 23] [Alex. - El-Montaza 23]

17. If 770 \div 10 = 77, then the divisor is _____

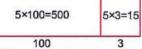
[Cairo 23]

 $20.8 \times - - = 8 \times 600 + 8 \times 50 + 8 \times 3$

[Cairo - Heliopolis 23]

- 21. The model 5

19.606 \div 6 = -



represents the problem — ÷ 5

10

22. If 632 × 4 = 2,528, then 2,528 ÷ 4 = -

[Alex. 24]

[Cairo 24]

Choose the correct answer.

1.153 \div 3 = 51, then the divisor is —

[Port Said 24]

- **B.** 51 2. In the operation $79 \div 11 = 7 R 2$ the divisor is —

D. 0

- A. 2

C. 11

D. 79

D. 13

- $3.412 \div 4 = -$ A. 12
- **B.** 123
- **C.** 103

[El-Menia 24]

h //56 x //	
4. 456 × 4 = —————————————————————————————————	t Said 24)
7.1. (1025	+ City 23]
5. In the equation: 35 ÷ 5 = 7, the divisor is [El-Monofia - Sada D. 1	at City 25j
	swan 23]
6. 939 ÷ 3 = —————————————————————————————————	iswaii 23j
	(Cairo 23)
7. 125 × 5 = ————————————————————————————————	(Call 0 23)
71. 625	eheira 23]
	enena 25j
	[Cairo 24]
7. The opposite modernopher of the same	6
, then the missing value in the model is	
A. 6 B. 7 7 140 - C. 42 D. 420	
	[Alex. 24]
10. The missing value in the opposite bar model	7
A 2 × 7 = 21 B 30 × 20 = 600	
C. $30 \times 7 = 210$ D. $20 \times 7 = 140$ $30 \times 20 = 600$:—
	+ C=:4 3/1
10.00	t Said 24] 7
, the missing number —	
A. 70 B. 47 40 400 C. 280 D. 17	?
5. 255	onofia 24)
12. The opposite model represents the product of 7 × 36 then the missing value in the model is 30	6
A. 6 B. 7 7 210 -	
C. 42 D. 420	
	onofia 24]
then the value of X =	6
A. 120 B. 24 4 120	х
C. 18 D. 144	
2000 Dec 2000	onofia 24]
, then X =	2
A. 6 B. 12 6 300	х
C. 60 D. 52	
15. The opposite model shows the product of 7 × 36	eheira 24]
then the value of X =	6
A. 6 B. 7 7 210	x
C. 42 D. 420	
16. Maha used the opposite model of rectangle area [Cairo - El-	Salam 23)
to find the result of $369 \div 3$, then $M = \frac{100}{100}$	20 3
A. 123 B. 9 3 300	60 M
C. 3 D. 396	

17.505 ÷ 5 = ----

[Cairo - El-Salam 23]

- A. 510
- B. 11

- C. 101
- D. 21

18. The divisor in the operation $91 \div 7 = 13$ is _____

[Giza - Abo El-Nomros 23]

- A. 7
- B. 13

- C. 75
- D. 91

19. Which of the following represents 35×6 ?

[El-Kalyoubia 23]

A. $[5 \times 6] + [30 \times 6]$

B. $[5 \times 6] + [3 \times 6]$

C. $[50 \times 6] + [3 \times 6]$

D. $[50 \times 6] + [30 \times 6]$

20. 200 ÷ 2 = ----

[El-Monofia 23]

- A. 1
- **B.** 10

- **C.** 100
- D. 2

21. If $605 \div 10 = 60 R 5$, then the divisor is —

[El-Monofia - Quesna 23]

- **A.** 5
- B. 10

- C. 60
- **D.** 605

22. If 37 oranges are distributed equally among 5 plates , how many oranges will be left?

[El-Monofia 23]

- A. 5
- B. 2

C. 7

D. 0

23. 26 ÷ 4 = ----

(Ismailia 23)

30

180

- A. 5R5
- B. 6R2
- C. 7R2
- D. 4R2

24. The opposite model represents the product of 32 × 6 , then the missing value in the model is _____

[Cairo 23]

A. 6

B. 12

C. 42

D. 8

25. 21 × 4 = -----

[Cairo - El-Nozha 23]

- A. 84
- **B.** 123
- **C.** 153
- D. 68

6

Answer each of the following.

- If the mass of a box is 124 kg, then find the mass of 5 boxes with the same
 [El-Monofia Sadat City 23]
- 2. By using an area model strategy, solve the problem that follows:
 The route that the river bus travels is 58 km long. How many kilometers does the river bus travel if it follows this route 9 times daily?
 [Aswan 23]
- 3. Rashida saved 545 L.E. to buy a toy. She did this by saving 5 L.E. every day. How many days did she have to work to save enough money to buy the toy?

 [Aswan 23]
- **4.** There are 72 students in the playground, and we need to divide the students into teams, so that each team includes 9 students. How many teams can be formed?

(El-Beheira 23)

5. A sweet box filled with 15 sweet pieces, what is the number of sweets in 7 boxes?

[El-Kalyoubia 23]

6. Find the quotient of: 246 ÷ 6 = _____

[Alex. - First Montaza 23]

7. Ahmed has 84 stickers, he distributed them equally among 7 of his friends, what is the share of each one?

[Cairo - El-Nozha 23]

On Unit 8

1. Complete.

[Giza 24]

[Cairo 23]

[Giza 23]

[Alex. 24]

2. Choose the correct answer.

1. What is the first step of solving $12 + 30 \div 6$?

A.
$$12 + 30$$

2. Which of the following equals 9?

A.
$$25 \div 5 + 4$$

B.
$$25 - 10 - 4$$

C.
$$3 \times 3 + 2$$

D.
$$8 - 2 \times 3 + 1$$

3. Which of the following = 6?

A.
$$3 \times 1 + 2$$

B.
$$12 + 6 \div 3$$

C.
$$18 - 3 \times 4$$

D.
$$24 \div 6 - 2$$

A. 48

6.20 ÷ 4 – 3 = —

[Alex. - El-Montaza 23]

- A. 20
- B. 6

C. 2

D. 9

 $7.12 + 6 \div 3 = -$

[El-Monofia - Berket El-Sabaa 23]

- A. 14
- B. 6

C. 1

- D. 16
- 8. Which is the first step in evaluating $18 15 + 3 \times 8 2$?

[Ismailia 23]

- A. 18 15
- **B.** 15 + 3
- C. 3 × 8
- **D.** 8 2

9.3 + 2 × 5 = ----

(Souhag 23)

- **A.** 13
- B. 14
- C. 10
- D. 25

10.4+10×2-1=----

[Souhag 23]

- A. 41
- B. 27
- C. 23
- D. 14

11.5 + 2 × 3 = ----

[Giza 23]

[Giza - Awseem 23]

[Alex. - Al-Agamy 23]

[Cairo - El-Nozha 23]

[Cairo - El-Nozha 23]

[Cairo - El-Shrouk 23]

- A. 10
- B. 6

C. 11

D. 8

 $12.9 + 2 \times [15 \div 5] = -----$

- A. 15
- B. 21

- C. 11
- **D.** 18

13.5 × 4 + 6 = ----

[Alex. - West 23]

- A. 26
- B. 25
- C. 50
- D. 34

14.24 ÷ [4 – 1] + 2 = ----

- A. 10
- B. 9

C. 8

D. 7

15. 18 ÷ 3 + 4 – 2 = ———

D. 0

- A. 8
- B. 16
- C. 2

16. [8 + 2] ÷ 2 = ----

- A. 4
- **B.** 5

C. 7

D. 12

17.6 × 4 – 4 =

- A. 15
- **B.** 20
- C. 24
- D. 64

Answer each of the following.

1. Use the order of operations to find: $7 + 12 \times [4 + 6]$

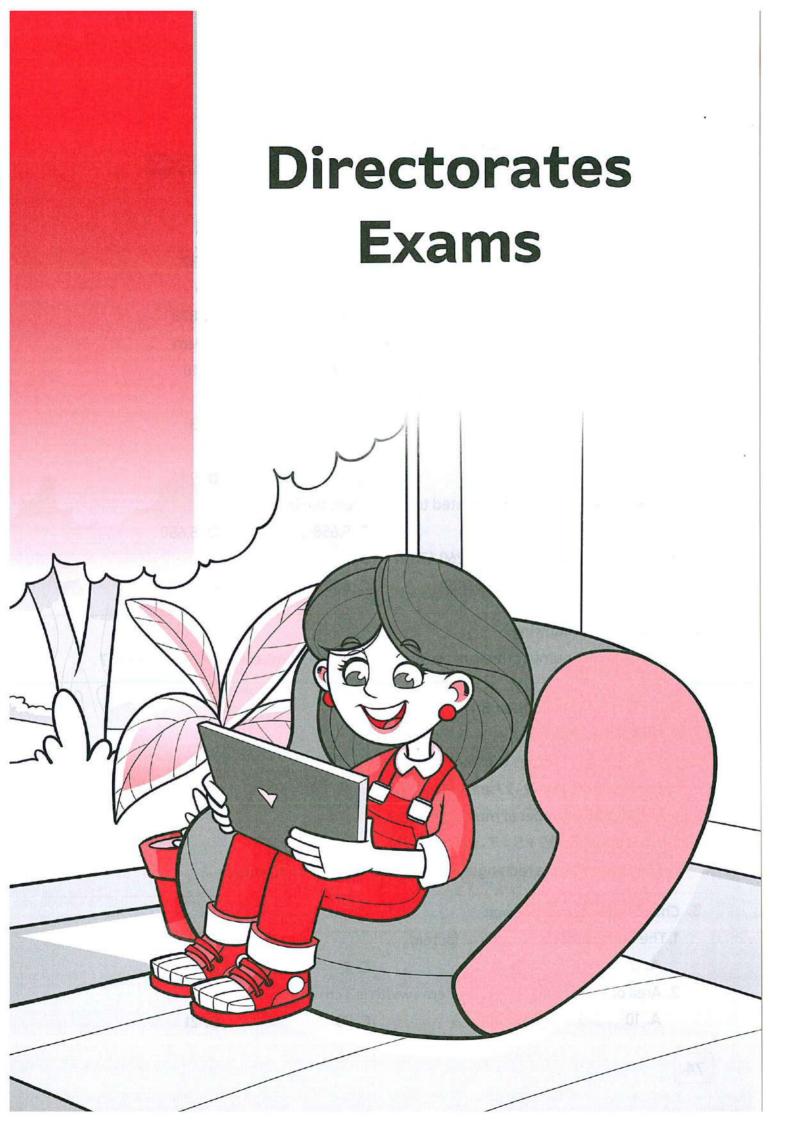
[Cairo 23]

2. Find the value of: $16 \div 4 - 2$

[Giza 23]

3. Find the value of: $25 - 3 \times 5 + 2$

- [Cairo 23]
- 4. Ahmed walked 5 kilometers every day for 3 weeks. The next week he walked 50 kilometers. How many kilometers did he walk over those 4 weeks?



1 Cairo Governorate



El-Nozha Education Directorate New Egyptian Language School

1. Choose the correct answer.

4 22 000 -	T1
1. 32,000 =	Thousands

A. 3,200

B. 320

C. 32,000

D. 32

A. 31

B. 238

C. 328

D. 823

A. 20

B. 80

C. 400

D. 10

A. 0

B. 1

C. 2

D. 3

A. 4

B. 6

C. 8

D. 9

A. 5,640

B. 5,600

C. 5,658

D. 5,650

A. 6,000

B. 600,000

C. 600

D. 60,000

2. Complete the following.

7. In the equation
$$35 \div 5 = 7$$
, the divisor is —

3. Choose the correct answer.

A. 0

B. 1

C. 2

D. 3

2. Area of a rectangle its length 7 cm, width is 3 cm =
$$-$$
 cm²

A. 10

B. 20

C. 73

	3.3L+2L+500 mL	= mL.			
	A. 505	B. 1,000	C. 5.5	D. 5,500	
	4. The G.C.F of 20 and	d 30 is ———			
	A. 50	B. 60	C. 600	D. 10	
	5. In the bar model M	1 =			100
	A . 135		B. 3,500		35 M
	C. 65		D. 56		·
	6. The area of the sq	uare whose side lengt	th is 6 cm =	- cm ²	
	A. 12	B. 24	C. 36	D. 60	
	7. The smallest odd	orime number is ——			
	A . 1	B. 2	C. 3	D. 4	
4.	Answer the followin	g questions.			
	1. Find the quotient of	of 246 ÷ 6 =	_		
	2. Ali bought a laptop	o for 7,250 L.E. and a mo	obile for 4,000 L.E. how	much Money	did he pay?
	3. Use the order of or	perations to find $7 + 12$	$2 \times [4+6]$		
	4. List all multiples o	f 3 up 30			
	2 Cairo	Governorate	Al-Mokattam Edi Mathemati	ucation Director cs Inspection	rate
1.	Choose the correct a	answer.			
	1. The number 1 milli	ard , 235 million and 13	27 in standard form —		
	A. 1,235,000,127	B. 1,235,127	C. 1,272,351	D . 1,235,127,	000
	2. The number —	is a prime numb	er.		
	A. 15	B. 2	C. 51	D . 49	
	3. The value of the di	git 6 in the number 2,	476,217 is ————		
	A. 6	B. 600	C . 6,000	D. 60,000	
	4. The perimeter of the	he rectangle of 8 cm l	ong and 2 cm wide eq	uals ———	
	A. 16	B. 20	C. 6	D. 10	
	5.5 \times 7 = 7 \times 5 the pr	operty is called ——			
	A. associative	B. identity	C. commutative	D. otherwis	е
	6. The capacity of juic	ce can is 1 liter and 50	0 mL, then its capacit	y in milliliters	=
	A. 150	B . 15,000	C. 1,500	D . 150,000	
	7. A week and 5 days	= days			
	A. 7	B. 13	C. 12	D. 17	

Directorates Exams

2. Complete the following.

1. If $641 \times 7 = 4,487$, then $4,487 \div 7 =$

2.24 is _____ times the number 4

3. The perimeter of the square of side length 7 cm = ——— cm

4. b + 1,000 = 3,000 , then b =

5. The number 5,648 approximated to the nearest ten is ————

6. 15 + 20 ÷ 4 = ----

8. Factors of 18 are

3. Choose the correct answer.

1. The multiplicative identity element is —

A. 1

B. 0

C. 2

D. 3

2.4 hours = minutes

A. 240

B. 96

C. 14

D. 60

3. Subtract 613 - 247 = ----

A. 567

B. 434

C. 366

D. 807

4. Which of the following is a multiple of 6? —

A. 93

B. 62

C. 42

D. 101

5. 8 km. • 45 m. = ----- m.

A. 845

B. 855

C. 8,000,045

D. 8,045

6.707 ÷ 7 = ---

A. 11

B. 101

C. 110

D. 100

7. In the opposite bar model:

The value of the number c = ----

7,620 c 4,310

A. 3,000

B. 200

C. 3,310

D. 2,310

4. Answer the following.

1. Hany has 2,532 pounds, he divides the money equally between his 3 friends. Find the share of each one of them.

2. Arrange the following numbers in a descending order:

654,311 , 654,301 , 599,310 , 654,310 , 604,320

3. Find G.C. F of 16 and 20

4. Apply the properties of addition to solve the problems :

36 + 80 + 64 + 20

Giza Governorate



El-Agouza Educational Directorate El-Manar Islamic Language School

Choose the correct answer.

1.5 × 4 + 6 = ____

A. 26

B. 25

C. 24

D. 30

2. The place value of the digit 3 in 12,537,265 is

A. Millions

B. Ten Millions

C. Thousands

D. Ten Thousands

3. The smallest prime number is —

A. 0

B. 1

C. 2

D. 3

4. 13 + 7 = 7 + 13 is _____ property.

A. associative

B. commutative

C. additive identity D. distributive

5. The divisor in the operation $55 \div 5 = 11$ is —

A. 55

B. 11

C. 5

D. 1

6. 2 kg = -----g

A. 20

B. 200

C. 2,000

D. 12

7.30 is 6 times the number —

A. 3

B. 4

C. 6

D. 5

Complete the following.

1. The additive identity is ————

2. The numbers 1, 2, 3, 6 are all the factors of ———

3.2 weeks = ---- days

4.1.600 ÷ 4 =

5. 3,200 + 4,300 = ----

6.700 Tens = ----

7.34 × ----= 3.400

8. The area of a rectangle whose length 5 cm, width 3 cm = --- cm²

Choose the correct answer.

1. A square of side length 5 cm, then its perimeter =

A. 5

B. 10

C. 20

D. 50

2.7357 \approx ——— [to nearest Hundred]

A. 300

B. 400

C. 7,000

D. 7,400

Directorates Exams

3.6 × 0 = ----

A. 0

B. 1

C. 2

D. 3

4.6L=---mL

A. 6

B. 60

C. 600

D. 6,000

5. — is a multiple of 3

A. 7

B. 8

C. 9

D. 10

6. 632 + [225 + 142] = [632 + ------] + 142

A. 225

B. 142

C. 632

D. 0

7.21 × 4 = ----

A. 84

B. 123

C. 153

D. 68

4. Answer each of the following.

1. Find the G.C.F of 10 and 25?

2. An ant walks 50 km every day. How many kilometers does it walk in 10 days?

3. 35,896 – 21,675 = ----

4. There are 250 tourists divided into equal groups, if each group has 5 tourists. How many groups will be there?

4

Giza Governorate



Haram Educational Directorate The Egyptian International School

1. Choose the correct answer.

1. 2,700 ÷ 3 = ----

A. 900

B. 90

C. 9,000

D. 9

2.422 cm =

A. 22 m, 4 cm

B. 42 m, 2 cm

C. 4 m, 22 cm

D. 3 m, 42 cm

3. If the side length of a square is 4 cm, then its perimeter is ———— cm.

A. 5

B. 4

C. 15

D. 16

4. Which of the following equals 24?

A. $3 \times 3 + 5$

B. $120 \div 5$

C. 6×6

 $D.8 + 16 \div 8$

5.1 day and 3 hours = — hours.

A. 27

B. 65

C. 15

D. 35

6.14+7=7+14 is ----

A. associative property.

B. commutative property.

C. additive identity property.

D. none of the above.

7. What is the first step	of solving $12 + 35 \div 7$?
---------------------------	-------------------------------

A. 12 + 35

B. $12 \div 7$

C. $35 \div 7$

D.12 + 7

2. Complete the following.

1.5,000 - B = 4,000, then the value of B = ----

2. The number 456,518,943 to the nearest Million is —

3. _____ is the only even prime number.

4. The divisor in 384 ÷ 8 = 48 is ————

5. The standard form of the numeral: Eight million, fourteen thousand, nine hundred thirty-six is

6. — is the common factor for all numbers.

7. 2 kg = — g

8. — is the additive identity.

3. Choose the correct answer.

A. 150

B. 2,500

C. 15,000

D. 1,005

2. List all the factors of 16

A. 1+16

B. 2,4,8

C. 1, 2, 4, 8, 16

D. 1,2,4,6,8,18

3.1 week = — days.

A. 8

B. 7

C. 11

D. 14

4.45 is _____ times the numbers 5.

A. 6

B. 9

C. 5

D. 40

5. A rectangle of length 5 cm, width 3 cm, then its area is — cm²

A. 16

B. 15

C. 8

D. 2

6. 8,526,549 \approx — [to the nearest Million]

A. 900,000

B. 9,000,000

C. 9,000,045

D. 7,045

7. 65,367,290 — 30,000,000

A. <

B. >

C. =

D. otherwise

4. Answer the following questions.

- 1. Find the G.C.F of 20 and 30?
- 2. Apply the properties of multiplication to find $2 \times 6 \times 5$
- **3.** Samir and Mohamed participated in a project. Samir paid 342 pounds. If the capital of the project is 500 pounds, how much did Mohamed pay?
- 4. Find the product of 70×22

Alexandria Governorate



West Educational Zone **Mathematics Supervision**

Choose the correct answer.

1.285 + 0 = 285 using the _____ property.

A. commutative B. associative

C. additive identity D. otherwise

2.4 liters , 325 mL = ---- mL

A. 235

B. 4,325

C. 329

D. 725

3. The value of the digit 8 in the number 28,746,509 is —

A. 8,000

B. 8,000,000

C. 800,000

D. 80,000

4. 6,000 Thousands = ---- Millions

A. 6,000

B. 60

C. 6

D. 600

5. The area of the rectangle of length 8 cm and width 5 cm = — —— cm²

A. 3

B. 13

C. 26

D. 40

6. In the equation $5 \times m = 30$, the value of m = -

A. 6

B. 4

C. 5

D. 8

7. The perimeter of the opposite

square = ----cm

A. 10

B. 15

C. 20

D. 25



Complete each the following.

1. The common multiple for all numbers is ——

2. The number 6,824 \approx _____ [to the nearest Thousand]

4. In the opposite bar model

m = -

7.869 m 5,358

6. The perimeter of the rectangle = [Length + width] × —

7. The smallest number formed from the digits 2,7,0,6 and 4 is –

8. The smallest prime number is -

3. Choose the correct answer.

- 1.3 days = ——— hours.
 - A. 24
- **B.** 48
- **C**. 72
- D. 96

- 2. The common factor of all numbers is
 - A. 0
- **B.** 1

C. 2

D. 3

- 3. If $24 \div 6 = 4$ then the divisor is
 - A. 6
- B. 24
- C. 4
- **D.** 30

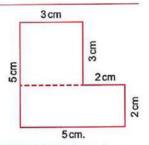
- 4. The number ——— is a multiple of 5
 - A. 14
- **B.** 20
- **C.** 16
- **D**. 28
- 5. The number is 2 times the number 9
 - A. 11
- **B.** 16
- **C.** 20
- **D.** 18
- 6. The place value of the digit 4 in the number 243,268,915 is
 - A. Thousands
- B. Ten Millions
- C. Ten Thousands
- D. Millions
- 7. Milliard is the smallest number formed from ———— digits.
 - **A**. 7
- **B**. 8

C. 9

D. 10

4. Answer the following questions.

 Calculate the perimeter and the area of the opposite shape.



2. Use the order of operations to find the value of:

$$4 \times 5 - 12 \div 3$$

3. Use the opposite area model to find

the product of

	20	4
10	_	
3	8	1 1 1 1 1 1

4. Find the factors 12 and the factors of 18 then find the G.C.F of 12 and 18

Factors of 12:

Factors of 18:

The common factors : ————

G.C.F = ----

6 El-Kalyoubia Governorate



Maths Supervision

1. Choo	ose the	correct	answer.
---------	---------	---------	---------

370201	120,000	75	0.0	505659550	1994 2000					
1	Thon	Jaco	value	oftha	digit E	in tha	number	15.420.2	21 ic	
١.	HILLER	lace	value	oi tile	ululto	III UIE	Hulliber	13.4ZU.Z.	2115	

A. Thousands

B. Ten Thousands

C. Millions

D. Ten Millions

2.30 hundreds = -----

A. 3,000

B. 300

C. 30

D. 3

3. The number 35,618 \approx ——— [to the nearest Hundred]

A. 35,700

B. 35,600

C. 36,000

D. 37,000

4. The G.C.F of the two numbers 6 and 12 is —

A. 6

B. 12

C. 24

D. 36

5. The remainder of the division 35 ÷ 6 is ————

A. 2

B. 3

C. 4

D. 5

6. The perimeter of a rectangle where its length is 5 cm and its width is 3 cm = ----- cm

A. 8

B. 15

C. 16

D. 20

7. 8,000 m = ------- km

A. 8

B. 80

C. 800

D. 8,000

2. Complete the following.

2. A number equals 4 times 5, then the equation which represents this is ———

3. Complete the bar model: n - 251 = 347

4. If 6 × m = 42, then m =

5. Two weeks and 5 days = ——— days

6. A square of side length 5 cm, then its perimeter = ----- cm

7. Two kilograms and 420 grams = ——— grams

8.3 hours = — minutes

Choose the correct answer.

1.1,976,180 1,976,081

A. <

B. >

C. =

D. <

2. A rectangle of 3 cm wide and 4 cm long, then its area = - cm²

A. 16

B. 14

C. 7

2	0 .	20	. —	
٦.	8 ×		=	

- A. 16
- **B**. 160
- C. 1,600
- **D.** 16,000
- 4. A prime number the sum of its factors is 20, then the number is
 - A. 11
- B. 13

- C. 17
- D. 19
- 5. Five bags there are 12 balloons in each bag, if 20 balloons are used, then the expression of the left balloons is -
 - **A.** $[5 \times 12] + 20$ **B.** $[5 \times 12] 20$
- C. $(5 \times 20) 12$
- **D.** $[12 \times 20] 5$

6.
$$4 \times 7 = 7 \times 4$$
 is called — property.

A. commutative

- B. associative
- C. additive identify element
- D. multiplicative identity element

7.
$$\div$$
 2 = 800

- A. 40
- B. 400
- **C.** 1,600
- D. 16

4. Answer the following questions.

1. Yasser saves 145 monthly. How many pounds he will save in 5 months?

The perimeter = 20 cm

2. In the opposite figure:

Find the value of A

- 3. A tourist agency transported 7,000 tourists in two days, it transported 3,000 tourists in the first day. How many tourists it transported in the second day?
- Dalia distrusted 424 glasses among 4 boxes. Find the number of glasses in each box.

El-Sharkia Governorate



Amro Ibn El-Aass

Choose the correct answer.

- **A.** 1,200
- B. 120,000
- C. 12,000
- **D.** 120
- The greatest common factors between 6 and 3 is
- B. 1

- D. 9
- 3. The width of a rectangle is 4 m and its length is 6 m, then its area = -
 - A. 24
- B. 60
- C. 10
- **D**. 30

- 4. The additive identity is ———
 - A. 1
- B. 0

C. 2

- A. 260
- **B**. 370
- C. 471
- **D.** 592

6. The place value of the digit 2 in the number 7,213,455,686 is -

A. Millions

B. Ten Millions

C. Miliards

D. Hundred Millions

7.5.000 m = -

A. 5 mm

B. 500 cm

C. 6 cm

D. 5 km

8. The prime number has only — factors.

A. 1

B. 2

C. 3

D. 4

9. The value of the digit 8 in 2,385,435 is -

A. 80,000,000

B. 80.000

C. 800

D. 8

10. 2 hours = — minutes

A. 240

B. 360

C. 60

D. 120

11. A rectangular room is 5 meters long and 4 meters wide. Its perimeter = —

A. 20 m

B. 18 m

C. 9 m

D. 40 m

12. The sum 4,690 + 2,524 = ---

A. 6,214

B. 2.180

C. 7,113

D. 7,214

13. 6 hundred millions =

A. 60,000,000

B. 600,000,000

C. 600,00

D. 600

14.5 × 24 = 24 × 5 represents the —— property.

A. associative B. commutative

C. identity

D. distributive

2. Complete.

2. Number of factors of 9 is —

3.6,350 mL = ----- L, ----- mL

4. The common multiple of all numbers is —

5. — grams = 6 kilograms , 454 grams.

6. The only even prime number is —

7. A square of side length 5 cm, then its area = -----

8. Rounding the number 5,367 to the nearest Hundred is —

3. Solve showing steps.

B El-Monofia Governorate



El-Bagour Educational Directorate Mathematics Department

4 Classes the second and the	
 Choose the correct answ 	er.

1. The standard form	n of the number 3 mill	lions ,7 thousands ,92	5 is ——			
A. 3,700,925	B. 3,070,925	C. 3,007,925	D. 3,925	5,700		
2. 13 + 7 = 7 + 13 is t	he — propert	у.				
A. associative	B. commutative	C. additive identity	D. distr	ibutiv	e	
3.1 day and 5 hours	=hours.					
A. 6	B. 29	C. 15	D. 51			
4. A rectangle with	an area 30 cm² , if its l	ength is 6 cm , then its	width =		cr	n
A. 36	B. 180	C. 5	D. 22			
5. The only even pri	me number is ———					
A. 3	B. 5	C. 2	D. 7			
6. What is the first	step of solving 12 + 30	÷5?				
A. 12 + 30	B. 12 ÷ 5	c. 30 ÷ 5	D. 12 +	5		
7. From the area mo	odel: the quotient = $-$		4	400	240	20
A . 4	B. 165		4	100	60	5
C. 660	D. 0			100	00	5
. Complete.		gett in the			10 m	
1. Rounding the nur	nber 648,200 to the ne	earest Thousand is —				
2. The number 35 is	5 times the number –					
3. The perimeter of	a square whose side l	ength is 8 cm =	cm			
4. 8,000 milliliters =	:liters					
5. The common fac	tor of all numbers is —					
6. $5 \times 397 = 5 \times 300$	+5×+5	×7				
7. In the opposite ba	ar model :				В	

3. Choose the correct answer.

 $8.5 \times [3+6] - 15 = -$

The value of the unknown B = -

1. The digit of the Hundred Thousands place in the number 9,720,354 is

A. 9

B. 5

C. 7

D. 3

3,840 2,160

2. 8 kilo	grams •7 grams = -	grams		
A. 8	,007 B. 7,	300 c . 8	7 0	. 8,700
3. One	of the common mult	tiples of 5 and 7 is —		
A. 15	B. 14	C. 3	5 D	. 12
4. 200 :	<= 18,00	00		
A. 9	B. 90	C. 9	00 D	. 9000
5. The p	erimeter of a rectar	gle whose its length	7 m and its width 4	₊ m = m
A. 11	B . 22	C. 2	8 D	. 3
6. Whic	h of the following re	presents the associa	tive property?	
A. 13	×1=13 B. 7	< 0 = 0 C. 4	$\times 5 = 5 \times 4$ D	$. 2 \times [3 \times 5] = [2 \times 3] \times 5$
7. The re	emainder of 54 ÷ 5 is	5		
A. 10	B. 5	C. 4	D	. 9
4. Answer	the following ques	tions.		
	he product 352 × 6		lUse one of the m	ultiplication strategies
		if a train travelled 359		, what is the remaining
	nce of the road?			9
3. Find t	he G.C.F of 25 and 3!	5		
4. Ahme	ed had 92 stickers , h	e wanted to distribu	te them among 4 o	f his friends , how
many	stickers will each o	f his friends get ?		
		Sara		
9	El-Gharbia Gov	ernorate	Central Mathematic	s Supervision
1. Choose	the correct answer.	7.00		
1. If 600	\div 10 = 60, then the	divisor is ————		
A. 1	B. 10	C. 60)	D . 600
2. Which	of the following is	a prime number?		
A . 1	B . 10	C. 15	r T	D. 17
3. A rect	angle its length is (L	and its width is (W)	what is its perimet	er?
A. L+			× (L+W)	D . [2 × L] + W
4. The n	umber 30 equals 5 t	mes the number —		The second secon
A. 3	B. 4	C. 6		D. 8
5. The di	git in the Hundred T	housands place in th	e number 3,457,657	
A . 7	B . 6	C. 5		D. 4

100

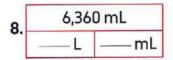
X

- 6.8 kilometers, 45 meters = ----- meters
 - A. 845
- **B.** 855
- C. 8,000,045
- **D.** 8,045
- 7. If the opposite model represents the product 5×23
 - , then X = ----
 - **A.** 7
- **B.** 115
- C. 15

D. 23

2. Complete the following.

- 1. The additive identity is ————
- **2.** 3,728 1,596 = ----
- 3. Compute the time. 3:25 + 6:42 =
- 4.40 ÷ (5 + 3) 1 = ----
- 5. If X = 20 = 30, then X =
- 6. A rectangle of length 7 cm and width 4 cm, then its area = ----- cm²
- 7. A square of side length 6 meters, then its perimeter = _____ meters



3. Choose the correct answer.

- 1.13 \times 24 = 24 \times 13 represents the property.
 - A. associative
- B. commutative
- C. identity
- D. distributive

- 2. is a multiple of 5
 - A. 6
- **B.** 12
- C. 15
- **D.** 21

- 3.963 ÷ 3 = ----
 - A. 321
- **B.** 333
- C. 222
- D. 111

- **4.** 34,000 = hundreds
 - A. 34
- B. 340
- **C.** 3,400
- D. 304
- 5. 2,357 = [rounding to the nearest Ten]
 - A. 2,360
- **B.** 2,358
- **C.** 2,350
- **D.** 2,400

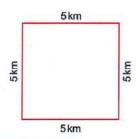
- 6. 42 is times the number 6
 - A. 6
- **B.** 4

C. 5

- D. 7
- 7. 3 minutes and 12 seconds = ——— seconds
 - **A.** 300
- **B.** 312
- C. 192
- **D.** 15

4. Answer the following questions.

- **1.** Arrange the numbers in an ascending order. 38,257,967 , 32,968,327 , 42,695 , 7,986,362
- 2. Write the factors of the number 12
- 3. Find the product of 46×3
- 4. Find the area of the opposite figure.



10 El-Dakahlia Governorate



Mathematics Supervision

1. Choose the correct answer.

- A. 6512
- **B.** 65,012
- C. 65,102
- D. 605,012

- 2.7 m , 25 cm = ----- cm
 - A. 752
- B. 7,025
- C. 725

- D. 257
- 3. The common multiple for all numbers is ————
 - A. 0
- **B**. 1

C. 2

D. 3

- 4.1 hour, 20 minutes = minutes.
 - A. 120
- **B.** 80
- C. 60

D. 20

- 5.57 ÷ 6 = 9 and the remainder is _____
 - A. 1
- **B**. 2

C. 3

D. 4

- **6.** — 247 = 613
 - A. 366
- B. 437
- C. 567

D. 860

- 7. is a factor of 63
 - A. 6
- **B.** 8

C. 9

D. 36

2. Complete the following.

4. In the opposite bar model:

The value of K =

7,823 K 3,390

- 5. The smallest prime number is ————
- 6. G.C.F of the two numbers 8,12 is

		git 9 in the number 3,49 quare whose side leng		cm			
	Choose the correct a	nswer.					
	1. 10 kg =]					
	A . 100	B. 1,000	C. 10,000	D . 100,000			
	2. 16 – 8 ÷ 4 + 3 = —						
	A. 5	B. 9	C. 11	D. 17			
	3. ———is a multiple of 8						
	A. 3	B. 4	C. 18	D. 24			
	4. 127 + 18 = 18 + 127	is ——— property.					
	A. a commutative		B. an associative				
	C. an additive ider	ntity	D. distribution				
5.10 times 950 =							
	A. 95	B . 950	C . 9,500	D. 95,000			
	6. 6,358 ≈ ———	rounded to nearest H	undred.				
	A. 6.360	B. 6.300	C . 6.400	D. 6.000			

4. Answer the following questions.

7. The divisor in $55 \div 11 = 5$ is

B. 11

A. 55

- 1. Nadia collected 16 marbles in March. By May she had 4 times as many marbles. How many marbles does Nadia have in May?
- 2. There are 72 students on the field. They want to split into 8 teams. How many students will be on each team?

C. 5

3. Determine the perimeter and the area of the opposite rectangle.

4 cm

The perimeter:	T T S
----------------------------------	-------

• The area : ———

4. A car is filled with 45 liters of petrol. How many milliliters would that be?

11 Ismailia Governorate Ismailia Educational Zone Mathematics Supervision	
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Choose the correct answer.

1.3 × 400 = ----

A. 120

B. 12,000

C. 1,200

D. 12

D. 1

2. The common factor of all numbers is

A. 0

B. 1

C. 2

3. The value of dig	it 4 in 7,243,102 is ———				
A. 4,000	B. 400	C. 400,000	D . 40,00	00	
4. The perimeter of	of square whose side le	ngth is 6 cm =	-cm		
A. 24	B. 36	C. 12	D. 10		
5 .4+3×2=					
A. 14	B. 7	C. 10	D . 6		
6. $8 + 0 = 8$, is the	property.				
A. associative	B. commutative	C. additive identity	D. Othe	rwise	
7. 5 km =	- m				
A. 5,000	B. 500	C. 50	D. 5		
2. Complete the follo	owing.				
1. The only prime e	ven number is ———				
2. 396 ÷ 3 =					
3.45,782 ≈	(to the nearest Tho	usand)			
4. If $3 \times m = 18$, the	en m =				
5. 2,450 mL =	L,mL	©			
6. A rectangle of length 5 cm , width 4 cm , its area = cm ²					
7. If $A \times 13 = 13 \times 25$, then A =				
8. By using the opp	oosite bar model			850	
the value of b =				350 b	
Choose the correc	t answer.				
1. Which of following	ng is multiple of 4?				
A. 1	B. 14	C. 15	D. 20		
2. $3 \times [2 \times 7] = [3 \times 7]$]×7				
A. 3	B. 2	C . 7	D . 6		
3. Which of follow	ing is a prime number ?	v			
A . 6	B. 10	C. 11	D. 9		
4. The common mu	ultiple of all numbers is				
A . 0	B. 1	C. 2	D. 3		
5. From the factors	of 18 is ———				
A. 5	B. 7	C. 9	D. 10		
6.1 day and 6 hours	s = hours				
A. 30	B. 16	C. 24	D. 48		

-	Tt	20 :- [+!	es the number $-$	
	i ne ni imner	ZILIS 5 TIME	es the number —	

- A. 6
- **B.** 3

C. 4

D. 5

4. Answer the following questions.

- 1. Find the G.C.F. of 12 and 18 (showing the steps)
- 2. A man bought 6 meters of cloths, if the price of one meter is 123 pounds, how much money did he pay?
- 3. Divide 125 ÷ 5
- 4. Convert the mass into the units on the bar model.

<u> </u>	g
35 kg	425 g



Suez Governorate



Mathematics Inspectorate

1. Choose the correct answer.

- 1. 2.000 = 2 × ----
 - A. 1.000
- **B.** 100
- C. 10

D. 1

- $2.36 \div 4 + 2 = --$
 - A. 6
- B. 9

C. 11

D. 22

- 3.3 hours = _____ minutes
 - A. 60
- **B.** 120
- **C.** 180

- **D.** 240
- 4. When dividing $10 \div 3 = 3$ and the remainder is
 - A. 3
- B. 2

C. 1

D. 0

- 5.3 and 5 are factors of the number -
 - A. 5
- **B**. 3

C. 8

- D. 15
- 6. The number 30 is a multiple of the number
 - A. 7
- B. 4

C. 8

- **D.** 3
- 7. A rectangle of length 8 cm, and width 4 cm, then its area = --- cm²
 - A. 4
- B. 24
- C. 32

D. 8

2. Complete the following.

- 1.363 ÷ 3 = ----
- 2.9 tens = ----
- 3.8 meters ,45 cm = ____ cm
- 4. 2 days = ----- hours
- 5. The place value of the digit 3 in the number 6,993,087 is _____

Directorates Exams

6.
$$[1+19] + 25 = 1 + [----+25]$$

8. If a rectangle with 4 cm wide and 7 cm long, then its perimeter = ____ cm

3. Choose the correct answer.

- **A.** 5
- **B.** 10
- C. 15
- **D.** 20

- A. 910
- B. 9,100
- C. 91,000
- D. 910,000

3.
$$18,642 \approx$$
 [to the nearest Hundred]

- **A.** 18,000
- **B.** 18,600
- C. 18,700
- D. 18,640

- **A.** 0
- **B**. 1

C. 2

D. 10

5. If
$$500 \div 50 = 10$$
, then the divisor is

- A. 1
- B. 10
- C. 50
- **D.** 500

- A. 0
- B. 1

C. 2

D. 3

- A. 36
- B. 24
- C. 18
- D. 60

4. Answer the following questions.

1. Find:

2. Find the G.C.F. of 12 and 8

4. Ahmed read 286 pages of a book in the first week , 154 pages in the second week. How many pages did Ahmed read in two weeks?

13 Damietta Governorate



Mathematics Supervision

1. Choose the correct answer.

- A. 600
- **B.** 6,000
- C. 6

D. 60

- A. 0
- B. 1

C. 2

			Directorates Exams
3. The area of rec	tangle its length 4 m	and its width is 6 m is —	square meters.
A. 24	B . 60	C. 10	D. 30
4. Round 235,621	to the nearest Thous	and is ———	
A. 235,000	B . 240,000	C. 236,000	D. 6,000
5. 3 kilometers =	meters		
A . 3	B. 30	C. 300	D . 3,000
6. 10 + 2 × 3 = —			
A. 36	B. 16	C . 60	D. 15
7. The value of di	git 5 in 3,415,177 is —		
A. 5,000	B. 500	C . 50,000	D. 5
Complete the fol	lowing.		
1.12 × 7 =	×12		
2.3 liters and 250) milliliters =	— milliliters	
3. If $4 \times m = 16$, th	nen m =		
4. 142 ÷ 2 =			
5. 32,751 = 30,000	+700	+ 50 + 1	
6. The even prime	e number is ———		
7. The perimeter	of the square of side	length 5 cm =	cm
8. If $X + 20 = 30$,	then X =		
Choose the corre	ect answer.		
1. The prime num	ber has only ———	— factor(s)	
A. 0	B. 1	C. 2	D. 3

3.

- 2. 2 × 5 × 6 = 10 × ____
 - A. 60
- B. 6

- **C.** 10
- **D**. 30

- 3.57 \div 1 = -
 - **A.** 57
- **B.** 570
- **C.** 58
- **D.** 56

- **4.** $22 \times 50 = [20 \times 50] + [$ \times 50]
 - A. 22
- **B.** 2

- C. 1,000
- **D.** 100

- 5. The number 20 equals 5 times the number
 - A. 100
- B. 4

C. 5

D. 2

- 6. If $600 \div 10 = 60$, then the divisor is -
 - A. 600
- **B.** 60
- C. 6

- 7. is a multiple of 6
 - A. 26
- **B.** 12
- C. 16
- **D.** 3

4. Answer the following questions. (Show your steps)

1. From this part-to-whole bar model:

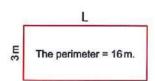
- a. Write the equation ———
- b. Find the value of X

5,398 X 2,164

- 2. Find the greatest common factor [G.C.F] of 9 and 12
- 3. Find the product of: 239×7

4. In the opposite rectangle:

The perimeter = 16 m, its width = 3 m, find its length.



14 Kafr El-Sheikh Governorate



Mathematics Supervision

1. Choose the correct answer.

- 1. The value of the digit 7 in the Ten Millions place is ————
 - A. 70
- **B.** 7,000
- **C.** 700,000
- **D.** 70,000,000

- 2. The additive identity added to 10 equals
 - A. 0
- B. 10
- C. 11

D. 100

- 3.54,000 is _____ times more than 5,400
 - A. 10
- **B.** 100
- C. 1,000
- **D.** 10,000

- 4. If 267 b = 207, then b =
 - A. 160
- B. 474
- C. 600

D. 60

- 5.16,000 mL = ----L
 - A. 16
- **B.** 16,000
- C. 1,600
- D. 160

- **6.** If b × 3 = 24 then b = ----
 - A. 8
- B. 6

C. 7

D. 9

- - A. 346
- B. 6

C. 40

D. 300

2. Complete the following.

- 1. The greatest number formed from the digits 3,5,8 and 7 is
- 2. The number 1 milliard, 225 million and 458 thousand in standard form is
- 3.15 + [-----+7] = [15 + 12] + 7—property.
- 4. $21,507 \approx$ Round to the nearest Thousand.
- 5. If m + 4,000 = 5,000 , then m =
- **6.** If d × 7 = 35, then d = ———
- **7.**2 days •3 hours = hours

3.	Choose the correct a	nswer.		
	1. The G.C.F for 2 and	6 is		
	A. 2	B. 6	C. 12	D. 3
	2. The number 1 milli	ard ,225 milion,458 ir	n standard form is —	
	A . 1,225,000	B. 1,225,458,000	C. 1,225,458	D . 1,225,000,458
	3. The remainder of 2	29 ÷ 3 is ———		
	A. 4	B. 3	C. 2	D. 1
	4.8 L = m	L		
	A. 80	B . 800	C. 8,000	D. 1,000
	5. The number ——	—— is a factor of 12		
	A . 3	B. 5	C. 7	D. 8
	6. If the area of a squa	are is 25 cm ² , then its	side length =	cm
	A. 5	B. 10	C. 100	D. 150
	7. One of the commo	n multiple of 6 and 7 is		
	A. 2	B . 7	C. 42	D. 36
	and 700, 540,275 The order 2. Find the perimete the opposite figur a. The perimeter = b. The area = 3. Ahmed bought 6 b How much money	r and the area of e: make if the price of ea	nch book is 240 pound	
1.	Choose the correct a	answer.	Mathemat	Educational Zone ics Supervision
	A. 1,000,000	B. ten thousands	C. 9,999,999	D. 7
	2 is a fact			
		B. 18	C. 8	D. 28
	3. 2 hours =		5. 0	
	TO THE STATE OF TH	B. 120	C. 45	D . 60
	A. 1,000			5. 00
		r has only ———— fa B. 1	C. 2	D . 3
	A . 0	D. I	C. Z	D. 3

5. A rectangle of length is 5 cm and its width is 4 cm, so its perimeter is ———

- A. 18 cm
- B. 12 cm
- **C**. 28 cm
- **D.** 20 cm

6. 21,789 ≈ ——— [t

(to the nearest 1,000)

- A. 21,000
- **B.** 200,000
- C. 22,000
- **D.** 20,000

7. To convert from kilogram to gram —

- A. multiply × 10
- B. multiply × 100
- C. multiply × 1,000
- D. multiply × 10,000

2. Complete the following.

- 1.472 + 725 = -----
- 2. The additive indentity element is
- 3. The common factor of all numbers is
- 4.5 × 6 + 2 =
- **5.**7 tons ,77 kg = ------ kg
- 6. is 10 times 430
- **7.** 892 = -----+ + ------ [in expanded form]
- 8.3,000 m = -----km

3. Choose the correct answer.

- 1.0 × 245 = ----
 - **A.** 2,450
- **B.** 245
- **C.** 0

D. 45

- 2. The measuring unit of length is ———
 - A. kg
- B. meter
- C. liter
- D. ton

- 3. 723 cm = ----- m + 23 cm
 - A. 7
- **B.** 2

C. 3

D. 72

- 4. = 180 ÷ 3
 - **A.** 40
- **B.** 8

- **C.** 60
- **D**. 6
- 5. $4 \times 7 = 7 \times 4$, represents the property.
 - A. associative
- B. identity
- C. commutative
- D. distributive
- 6. The smallest number formed from 2,5,0,5,1,7 is
 - **A.** 102,557
- **B.** 12,557
- C. 755,210
- **D**. 752,510

- **7.** 125 ÷ 5 = ----
 - **A.** 15
- **B.** 52
- C. 51
- **D**. 25

4. Answer the following questions.

- 1. Square its side length is 6 cm, find the area.
- 2. Hassan saves 145 L.E. each month. How much money will he save in 4 months?
- 3. Find the G.C.F of 8 and 12
- 4.852 ÷ 6 = ----

16 El-Fayoum Governorate



West Educational Directorate Mathematics Supervision

1. Choose the correct answer.

$$B.7 + 4$$

$$D.7 + 7$$

7. The divisor in
$$36 \div 4 = 9$$
 is

2. Complete the following.

- 1. The common factors of all numbers is
- **2**. 2 hours = minutes
- 3.13 liters = ----- mL
- 4.48 × 12 = 12 ×
- 5. The additive indentity element is ————
- 6. If a square of side length 3 cm, then its area = ----- cm²
- **7.**5,000 grams = ——— kilograms
- 8.123 × 11 = ----

3. Choose the correct answer.

- 1. The value of digit 0 in the number 7,694,210 is
 - **A**. 7
- **B.** 5

C. 0

D. 3

- A. 6,000
- **B.** 7,000
- **C.** 700
- **D**. 7

- **A.** 2,300
- **B.** 2,400
- **C.** 420
- **D.** 4,200

4.36 ÷ 6 = 6 R -

A. 0

B. 2

C. 3

D. 5

5. 1 day and 5 hours = -----

A. 24

B. 28

C. 29

D. 27

6.13 × 0 = ---

A. 0

B. 2

C. 3

D. 5

7. The area of a rectangle with length 9 cm and width 6 cm is -—— cm²

A. 45

B. 48

C. 54

D. 30

Answer the following questions.

1. Find G.C.F of 12 and 18

2. Marwan placed 32 bottles of juices on 8 tables equally, how many bottles of juice on each table?

 $3.52 \div 2 = -$

4.61 × 5 = -

El-Menia Governorate



Maghagha Educational Directorate St. Mark & El-Tawfik Schools

Choose the correct answer.

1. The value of the digit 6 in the number 3,625,380 is —

A. 600

B. 6,000

C. 60,000

D. 600,000

2.20 × 80 = ---

A. 160

B. 1,600

C. 1,000

D. 100

 $3.3 \times 5 + 4 - 2 = -$

A. 15

B. 16

C. 17

D. 18

4. $27 \times 18 = 18 \times 27$ represents the property.

A. commutative B. associative

C. additive identity

D. multiply by 0

5. If $3 \times 7 = n$, then n = -

A. 14

B. 21

C. 28

D. 32

6.7L=---mL

A. 7

B. 70

C. 700

D. 7,000

7. 2,832,420 \approx (to the nearest Million)

A. 2,000,000

B. 3,000,000

C. 2,800,000

D. 2,830,000

2. Complete the following.

- 1. The prime number has only factors.
- **2.** 37,000 = thousands
- 3.32 × 4 = ----
- 4.8+8+8+8=--×8
- 5.20 ÷ 4 2 = ———
- **6.** 3 kg = ----g
- 7.4×5×2=----
- 8. The place value of the digit 3 in the number 23,562,850 is ——

3. Choose the correct answer.

- 1. If k × 5 = 5, then k = _____
 - A. 0
- B. 1

C. 2

D. 5

- 2. 14 is times the number 7
 - A. 2
- **B.** 3

C. 4

- **D.** 5
- **3.** 500,000 + 30,000 + 8,000 + 200 + 30 + 6 =
 - A. 5333,628
- **B.** 538,236
- C. 538,326
- D. 536,823

- **4.** 678 431 = ----
 - A. 243
- B. 247
- C. 237
- **D.** 233

- **5**. 62,320 ——— 26,320
 - A. <
- B. =

C. >

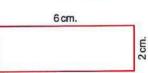
D. ≥

- **6.** $[2 \times 350] \times 80 = 2 \times [350 \times ----]$
 - A. 2
- **B**. 350
- **C.** 80
- D. 1

- 7.50 tens = ----
 - A. 50
- **B.** 500
- **C.** 5,000
- **D.** 50,000

4. Find the result :

- 1. Find the perimeter of the opposite figure.
- 2. Find the factors of 10
- 3. Arrange in an ascending order:
 - 24,567 ,14,567 ,45,657 ,34,657
- 4. Find the product of 16×3



Souhag Governorate



Sabry Abo Hussein Official Language School

Choose the correct answer.

1.200,000 + 50,000 +	200 : 10 : 7 -
1 / + 5 +	3111 + 111 + / -

- A. 250,317
- **B.** 205,317
- **C.** 253,017
- D. 250,371

- The prime number has only factors.
 - A. 0
- B. 1

C. 2

D. 3

$$3.345 + 0 = 345$$
 represents the property.

- A. commutative B. associative
- C. additive identity
- D. distributive

20

60

3

M

100

300

- 4. The opposite area model represents 3×123
 - , then the value of M = -
 - A. 33

C. 9

- B. 6
- D. 27

- 5.16 12 ÷ 4 = ---
 - A. 13
- **B**. 2

C. 1

- **D**. 3
- 6. The greatest common factor of 3 and 9 is
 - A. 12

C. 27

D. 3

- **7.** 35 is a multiple of ————
 - A. 5
- B. 6

C. 8

D. 9

Complete each of the following.

- 1.350 hundreds = ---
- **2.** 45,641 + 23,425 = ---
- 3.78,456 \approx [to the nearest Thousand]
- 4. From the opposite bar model
 - , the value of X = ----

215					
Х	183				

- 5.936 ÷ 3 = ----
- 6. is a factor for all numbers.
- 7.4,800 gram = _____ kg,____ gram
- 8.40 is times the number 5

Choose the correct answer.

- 1. A rectangle of length L and width W, then its perimeter = -
 - **A.** L+W
- **B.** $[L+W]\times 2$
- **C.** $[L \times W] + 2$
- D. L×W×L×W

- **2.** The place value of 0 in 2,045,912 is —
- A. Thousands
- B. Tens
- C. Ones
- D. Hundred Thousands

- 3. $28 \div 9 = 3 R1$, the divisor is ————
 - A. 27
- B. 9

C. 3

D. 1

- **4.** 5,000 cm = _____ m
 - **A.** 5
- **B.** 50
- **C.** 500
- **D.** 5,000

- **5.** 2: 50 + 40 minutes =
 - A. 2:10
- **B.** 3:10
- C. 2:54
- D. 3:30
- 6. The perimeter of a square is 36 cm, then its side length is ——— cm
 - A. 5
- **B**. 8

C. 6

D. 9

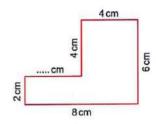
- **7.** 23 × = 2,300
 - **A.** 100
- **B.** 10
- C. 1,000
- **D.** 1

4. Answer the following questions.

- 1. A bridge of ants consists of 142 and another bridge consists of 164 ants. How many ants are there in the two bridges together?
- 2. Find the product of: 98×4
- 3. A car filled with 45 liters of petrol. How many milliliters would that be?
- 4. In the opposite figure:

The perimeter = -----

The area =



19 Aswan Governorate



Mathematics Supervision

1. Choose the correct answer.

- 1.16 + 4 = 4 + 16 represents the property.
 - A. associative
- B. commutative
- C. additive identity
- D. distributive

- 2.2 hours = ---- minutes
 - **A.** 60
- **B.** 120
- **C**. 180

- **D.** 240
- 3. The place value of the digit 3 in 43,507,689 is
 - A. Hundreds
- B. Thousands
- C. Millions
- D. Ten Millions
- 4. The perimeter of square = side length ×
 - **A.** 0
- **B.** 1

C. 2

D. 4

- 5. If 7 × b = 14, then b = _____
 - **A**. 2
- **B**. 3

C. 4

D. 5

- **6**. 738 × 0 = _____
 - **A.** 8
- **B**. 1

C. 0

D. 738

7. Round to the nearest TI	housand 5.843 is
----------------------------	------------------

A. 5,000

B. 5,800

C. 6,800

D. 6,000

2. Complete the following.

1. The area of a rectangle whose length is 5 cm and its width is 3 cm =
$$-$$
 cm²

2.
$$200,000 + 30,000 + 5,000 + 100 + 80 =$$
 [in standard from]

Choose the correct answer.

1. The divisor in the operation
$$98 \div 7 = 14$$
 is ————

A. 98

B. 7

C. 14

D. 0

A. 20

B. 200

C. 2,000

D. 20,000

A. 45,168

B. 45,086

C. 54,008

D. 54,186

A. >

B. <

C. =

D. ≥

5. What is the first step of solving:
$$18 + 42 \div 6$$
?

A.
$$18 + 42$$

B.
$$42 \div 6$$

C.
$$18 \div 6$$

D. 18 + 6

6. A rectangle its length (L) and its width (W), then its perimeter =

C.
$$2 \times [L+W]$$

D.
$$[2 \times L] + W$$

D. 18,000

4. Answer the following questions.

1. Arrange in an ascending order:

2. Find the greatest common factor (G.C.F) for 10 and 15

$$3.x + 543 = 869$$

20 South Sinai Governorate



El-Tur Educational Zone Mathematics Supervision

	THE PLANT HAT WE		12,000	San San Brossesson (SAS et Monto)
1.	Choose the correct a	answer.	~	
	1. The number one m	illion and six hundred	thousand in digits is –	
	A. 1,600	B. 1,000,600	C. 1,600,000	D . 1,660,000
	2. The value of the di	245,316 is ————		
	A . 6	B. 60	C. 600	D . 6,000,000
	3 . 8,000,000 + 5,000	+ 40 + 3 =	(to the nearest Thousa	and]
	A . 8,543	B. 805,043	C. 854,003	D. 8,005,043
	4. The number 62,871	1 ≈ (to the r	nearest Thousand)	
	A. 62,000	B . 62,800	C . 62,871	D . 63,000
	5. The property show	vn by 25 + 12 = 12 + 25	is the ——proper	rty.
	A. associative	B. commutative	C. distributive	D. neutral element
	6. 8 kilograms =	grams		
	A. 80	B. 800	C . 8,000	D . 80,000
	7. The unit which you	use to measure the l	ength of the pencil —	
	A. meter	B. kilometer	C. centimeter	D. millimeter
2.	Complete the follow	ing.		
	1. The perimeter of a	square of side length	6 cm = cm	
	2.6,400 ÷ 8 =			
	3.3,000 × 12 =		*	
	4. 5 liters =	– milliliters		
	5. The smallest even	prime number is ——		
	6. The perimeter of a	rectangle of length 8	cm and width 4 cm is -	cm
	7.4 weeks and 2 days	s = days		
	8. The value of A in th	ne equation $A \times 10 = 10$	00 is ———	
3.	Choose the correct a	answer.		
	1.940,668	940,669		
	A. >	B. <	C. =	D. ≥
	2. Million is the smal	lest number formed f	rom ——— digits.	_ #
	A. 6	B. 7	C. 9	D. 10

2	oultiple of 4 and 7
3. —— Is a common m	luitible of 4 and 7

- A. 8
- B. 14
- C. 21
- **D.** 28

- A. 7
- **B.** 8

C. 9

D. 50

5. The area of the square whose side length is 5 cm =
$$---$$
 cm²

- **A.** 5
- B. 10
- C. 20
- **D**. 25

- **A.** 2
- **B.** 5

C. 7

D. 11

- A. 12
- B. 20
- C. 26
- D. 48

4. Answer the following questions.

- **1.** Omar read 125 pages of a book, if the number of pages of this book is 400 pages. How many pages are left?
- 2. Find the greatest common factor [G.C.F] of the two numbers 40 and 50
- 3. An ant farm in a rectangular shape with dimensions 20 cm and 8 cm. What is the area of the ant farm?
- **4.** A bridge of ants consists of 145 ants, and another bridge consists of 162 ants. How many ants in the two bridges together?



Mathematics

By a group of supervisors

GUIDE ANSWERS

FREE PART

2



Answers of Revision

Revision

- **1.** a. 51,330
- b. 300
- c. 16
- d. Ten Thousands

c. D

- e. 38,502
- 2. a. A

d. B

- b. A
- e. B
- 3. 43,692 , 56,210 , 171,000 ,
- 506,021 , 650,201
- 4. a. 3,182
- b. 68,921
- c. 27,000
- d. 49

Revision

- 1. a. D d. A
- b. A e. A
- c. B

- 2. a. 863,507

 - b. Hundred Thousands c. 9
 - d. 107,035

- e. 17
- 3. The number of cans in a week $= 800 \times 7 = 5,600$ cans

4. The greatest number: 964,310 The smallest number: 103,469

Revision 3

- 1. a. 32 d. 1,114
- b. 210
- e. 20,567
- 2. a. C

3. 8×1

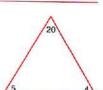
- b. C
- c. D

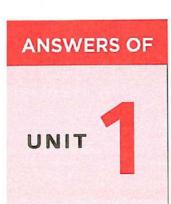
c. 38

d. B

7×8

- e. B
 - 3×10 6×9 5×12
- 4. The number of bags = 72 ÷ 8 =9 bags
- 5. $4 \times 5 = 20$
 - $\cdot 5 \times 4 = 20$
 - $20 \div 4 = 5$
 - $20 \div 5 = 4$





Place Value

▶ Concept 1 : Reinforcing Place Value

▶ Concept 2 : Using Place Value



Reinforcing Place Value

Exercise 1

1.		Milliards	Millions		Thousands			Ones			
	Number	0	н	т	0	н	Т	0	Н	T	0
Ex.	5,604,453,987	5	6	0	4	4	5	3	9	8	7
a.	8,714,326,518	8	7	1	4	3	2	6	5	1	8
b.	753,009,300	121	7	5	3	0	0	9	3	o	0
c.	7,354,621		-		7	3	5	4	6	2	1
d.	8,000,300	= 1	-	-	8	0	0	0	3	0	0
e.	923,508	-	-	-	2	9	2	3	5	0	8

- 2. a. 7
- b. 6
- c. 5

- d. 3
- e. 4
- f. 1
- 3. a. 400,000 **b.** 700,000,000
 - c. 60,000,000 d. 10
 - e. 4,000,000
 - g. 90,000
- h. 300,000,000
- i. 0
- i. 900

f. 0

- k. 3,000
- l. 60,000,000
- 4. a. Millions
 - b. Hundred Thousands
 - c. Millions
 - d. Ten Millions
 - e. Hundred Thousands
 - f. 50,000

k. 7

g. 6,000,000

j. 700

- h. 60,000,000 i. 20

L. 10

- m. 1,346,789
- n. 10,234,567
- o. 987,543,210 p. 9,999,999

- 5. a. 75,421,392
 - b. 2,500,422,300
 - c. 701,007,700
 - d. 2,500,422
 - e. 9,009,009,009
 - f. 27,027,000
 - g. 16,000,000,016
- 6. a. 56
- b. 2,800
- c. 32
- d. 3,000
- e. 550
- f. 720
- g. 8,790 i. 300
- h. 800 j. 400
- k. 60.000
- L. 50,000
- 7. I disagree because the value of 2 in Ones place is 2

I disagree because the value of 2 in Tens place is 20

I disagree because the value of 2 in Hundreds place is 200

- 8. a. One million
 - b. Two thousand
 - c. Seventy thousand
 - d. 10
- The greatest is 98,765,321
 - The smallest is 12,356,789
 - The value of 7 in the greatest number is 700,000 and the value of 7 in the smallest number is 700

Answers of multiple choice questions

- 1. C
- 2. D
- 3. D

- 4. D
- **5.** C
- 6. C

- 7. D
- 8. C
- 9. A 12. C

- 10. C
- 14. B
- **15.** B

Exercise 2

1.

- a. 409
- **b.** 34,097,000
- **c.** 3,214,936
- d. 527,900,640
- e. 3,402,000,017
- f. 27,422
- g. 70,126,450

2.

- a. 1,000,000 + 700,000 + 50,000 + 6,000 + 300
- **b.** 50,000,000 + 4,000,000 + 600,000 + 30,000 + 2,000 + 400 + 5
- c. 700,000,000 + 1,000,000 + 400,000 + 60,000 + 2,000 + 50 + 1
- **d.** 9,000,000,000 + 900,000,000 + 80,000,000 + 9,000,000
 - +700,000 + 90,000 + 1,000 + 900
 - +80+5
- e. 30,000,000 + 5,000,000 + 10,000 + 7,000 + 200 + 30
- f. 2,000,000,000 + 400,000,000 + 20,000,000 + 300,000 + 50,000 + 2,000 + 100 + 3

3.

- a. Three million , five hundred sixtytwo thousand , five hundred four.
- b. Fifty-four million, two hundred thirteen thousand, four hundred fifty.
- c. Five milliard , four hundred eight million , nine hundred twenty-one thousand , two.
- d. Seven hundred sixty thousand, twenty-nine.
- e. Five milliard, seven million, nine hundred three thousand, twenty.

4.

- a. 3,021,509
- **b**. 1,024,000
- c. 6,221,000
- d. 8,555,666
- e. 5,000,005,005
- f. 4,025,067,059
- **g**. 3,003,003
- h. 5,650,016
- i. 5,023,640
- j. 742,372
- k. 803,504
- l. 6,543,210
- m. 1,235,789
- n. 600
- o. 3,008,433

5.

- a. 100,000 + 70,000 + 300 + 90 + 2
- **b.** 100,000 + 5,000 + 200 + 8
- c. 600,000 + 1,000 + 200 + 7
- d. 2,000,000 + 200,000 + 70,000 + 7,000 + 100 + 90 + 1

- e. 10,000,000 + 7,000,000 + 200,000 + 30,000 + 10 + 4
- f. 3,000,000,000 + 100,000,000 + 30,000,000 + 7,000,000 + 600,000 + 10,000 + 9,000 + 80 + 8

6.

a. 6,000,000,000 + 100,000,000 + 20,000,000 + 4,000,000 + 30,000 + 400 + 20

Milliards	Millions			Thousands			Ones		
0	Н	Т	0	Н	Т	0	Н	Т	0
6	1	2	4	0	3	0	4	2	0

- **b.** 5,400,159,024 5,000,000,000 + 400,000,000 + 100,000 + 50,000 + 9,000 + 20 + 4
- c. 7,050,043,509

Milliards	Millions			Thousands			Ones		
0	Н	Т	0	Н	Т	0	Н	Т	0
7	0	5	0	0	4	3	5	0	9

7.

- a. $(4 \times 1,000,000) + [4 \times 10,000] + [4 \times 100]$
- b. 2,005,607,927
- c. 9,053,769
- d. 9,000,000,000 + 200,000,000 + 10,000,000 + 30,000 + 1,000 + 400 + 50 + 8
 - 8. 165,640
 - 9. 987,654,321 and 986,654,321 (Answers may vary)

Answers of multiple choice questions

- 1. B
- 2. C
- 3. A

- 4. 0
- 5. A
- 6. D

- 7. A 10. C
- 8. D 11. C
- 9. B 12. B

13. B

Concept 2

Using Place Value

Exercise 3

- 1.
- a. < b. =
- c. >
- d. >

- e. < f. >
- g. <
- h. <

- i. <
- j. <
 - k. >
- l. >

2.

e. <

- a. <
- b. > f. <
- c. = g. >
- d. < h. <

- i. > j. <
- 3.
- a. 1,025,789
- c. 2,034,689
- **b.** 2,035 d. 98,520
- e. 743,210
- 4.
- b. 2 a. 0 e. 9 f. 8
- c. 9

k. 0

- d. 0
- g. 0 h. 0

L. 9

- i. 5 i. 0
 - 5. (One of the answers is)
- a. 793,820
- b. 9.933.001
- c. 22,427,400
- d. 2,000,000,000 + 400,000,000
 - + 40,000,000 + 5,000,000
 - +200,000 + 30,000
 - +2,000+100+90+7

6.

- 24,1(5)2,614 < 24,1(2)5,614
- 24, 152, 614 > 24, 125, 614
 - 7. 12,495 < 13,495

Answers of multiple choice questions

- 1. C
- 2. A
- 3. A

- 4. A
- 5. C
- 6. A 9. A

- 7. C
- 8. B
- 12. C

- 10. B 13. A
- 11. C 14. C

Exercise 4

- 1.
- a. 7,534,786 , 8,092,561 , 8,650,336 , 9, 208, 111
- **b.** 988,423 , 1,282,756 , 3,012,427 ,3,105,338
- c. 43,000,549 , 403,000,456 ,430,000,459 , 430,549,000
 - 2.
- a. 540,312 , 504,321 , 450,321 , 342,150 , 321,405
- b. 6,562,942,735 , 6,562,942,375 , 6,942,735 , 6,942,537
- c. 4,273,653 , 4,237,690 ,4,237,651 , 495,627
- **3.** 3,110,099,493 ,3,010,001,034 , 3,001,323,391 , 3,000,990,992
- 4.
- a. 599,310 , 604,320 , 654,301 ,654,310 , 654,311
- **b**. 3,405,003 , 3,450,003 , 3,450,030 ,3,453,000

5.

- a. 3,000,000,000 , 2,400,700,000 , 2,040,007,000 , 2,004,700,000
- **b.** 6,045,017,090 , 6,035,060,900 , 6,025,060,990 , 5,045,007,090 , 5,041,007,090

6.

- a. 461,014
 - 6,400,042
 - [4 × 1,000,000,000] + [4 × 100,000] + [6 × 10]
 - Four milliard , six hundred thousand , four.
 - Four milliard , six hundred thousand , forty
- b. Nine million , seven hundred thirty-one thousand , seventy
 - 9,000,000 + 700,000 + 40,000 + 50
 - 90,731,007
 - Seven hundred million , eighty-four
 - 900,080,500

7.

- a. 9 million
 - 5 million and 7 hundred thousand
 - 900 thousand
 - 550,223
- **b.** Four milliard , six hundred thousand , forty.
 - Four milliard six hundred thousand four

- [4 × 1,000,000,000] + [4 × 100,000] + [6 × 10]
- 6.400.042
- 461,014
- The numbers will be arranged in an ascending order

3,751,624,069

→ 3,751,624,096

→ 3,751,924,069

----> 3,751,924,096

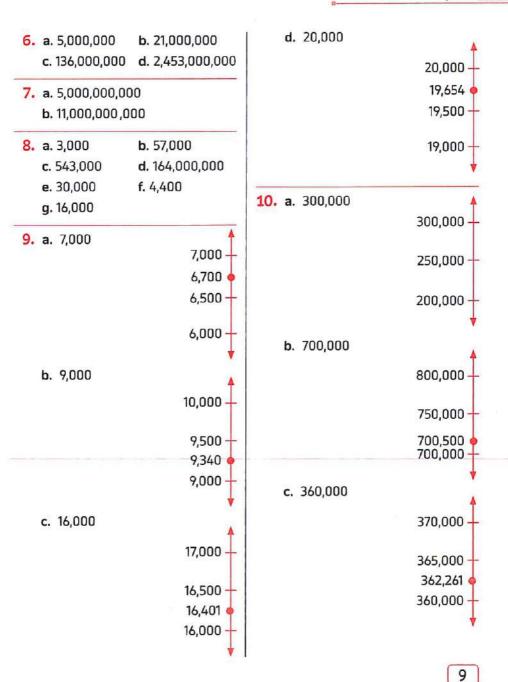
Answers of multiple choice questions

- 1. D
- 2. C
- 3. B

- 4. B
- 5. C
- **6.** C

Exercise 5

- 1. a. 420
- **b.** 550
- c. 500
- d. 1,290
- 2. a. 900
- b. 400
- c. 4,400
- d. 2,000
- 3. a. 8,000
- **b.** 234,000
- c. 10,000
- d. 8,000
- 4. a. 40,000
- **b.** 60,000
- c. 290,000
- d. 7,435,030,000
- 5. a. 500,000
- b. 700,000
- c. 400,000
- d. 12,800,000



d. 37,000

37,000 36,951 36,950

36,900

11. [The answers may be]
312,400 311,500
312,300 311,610
312,211 or 311,711
312,111 311,812
312,012 311,900
[Answers may vary]

- **12.** The greatest number = 349,999
 - The least number = 250,000

Answers of multiple choice questions

- **1.** C
- 2. B
- 3. A

- 4. A
- 5. A
- 6. A

- 7. A
- 8. C
- 9. C

- 10. D
- 11. B
- 12. B

Unit 1 Assessment

- 1. 1. D
- 2. B
- 3. C
- 4. C

- 5. C
- 6. B
- 7. A

- 2.
- 1. 7
- 2. 1,024,569
- 3. 60,000,000

- 4. Hundred Thousands
- 5. 80,124,650
- 6. 740,000
- 7. 3,000,000,000 + 500,000,000 + 4,000,000 + 800,000 + 500 + 1
- 8. Hundred Thousand
 - **3. 1.** D
- 2. C
- 3. A 7. B

4. C

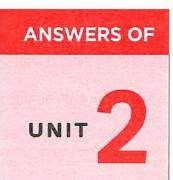
- 5. B 6. D
- 4.
- 1. 2.700
- 2. The greatest number is 87,654,320 ≈ 88,000,000

The smallest number is 20,345,678 \approx 20,000,000

- 3. a. 13,561,954 ,6,362,012 ,5,364,569 ,2,265,698
 - b. 2,265,698 ,5,364,569 ,6,362,012 ,13,561,954
- 4. Composed: 2,805,400,693

Decomposed:

- 2,000,000,000 + 800,000,000 +
- 5,000,000 + 400,000 + 600 + 90 + 3



Addition and Subtraction Strategies

► Concept 1 : Using Addition and Subtraction Strategies

▶ Concept 2 : Solving Multistep Problems



Concept 1

Using Addition and Subtraction Strategies

Exercise 6

1.

a. Associative

b. Commutative

c. Associative.

d. Additive identity

e. Commutative.

2.

a. 5

b. 61

c. 854

d. commutative

e. 0

3.

a. 92 + 321 + 8 = 92 + 8 + 321[Commutative property]

= [92 + 8] + 321 (Associative property)

= 100 + 321 = 421

b. 1+16+4=1+[16+4][Associative property] = 1 + 20 = 21

c. 199 + 1 + 40 = [199 + 1] + 40[Associative property] = 200 + 40 = 240

d. 5+7+8+3=5+8+7+3[Commutative property]

= [5+8]+[7+3][Associative property]

= 13 + 10 = 23

4.

a. 75 + [25 + 46] = 75 + 71 = 146(75 + 46) + 25 = 121 + 25 = 146

b. [10+4]+20+17=14+20+17=5110 + [4 + 20] + 17 = 10 + 24 + 17 = 5110 + 4 + (20 + 17) = 10 + 4 + 37 = 51

c. [820 + 78] + 12 + 80 = 898 + 12 + 80= 990 820 + [78 + 12] + 80 = 820 + 90 + 80

= 990

[820 + 80] + [78 + 12] = 900 + 90 = 990

5.

a. [30 + 70] + 15 = 100 + 15 = 11530 + [70 + 15] = 30 + 85 = 115

b. 11 + [26 + 34] = 11 + 60 = 7111 + 34 + 26 = [11 + 34] + 26= 45 + 26 = 71

c. [220 + 88] + 80 = 308 + 80 = 388220 + 80 + 88 = [220 + 80] + 88= 300 + 88 = 388

d. [12+28] + 30 + 25 = 40 + 30 + 25 = 9512 + [28 + 30] + 25 = 12 + 58 + 25 = 95

6.

a. 15 + [18 + 12] = 15 + 30 = 45

b. 41 + 19 + 36 = [41 + 19] + 36= 60 + 36 = 96

c. 421 + 29 + 9 = [421 + 29] + 9=450+9=459

d. 342+8+4+46=[342+8]+[4+46]= 350 + 50 = 400

e. 730 + 20 + 13 + 17= [730 + 20] + [13 + 17]= 750 + 30 = 780

7.

24 + 35 + 105 + 66 = 24 + 66 + 105 + 35

[Commutative property]

$$= [24 + 66] + [105 + 35]$$

(Associative property)

= 90 + 140 = 230

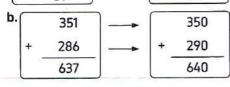
Answers of multiple choice questions

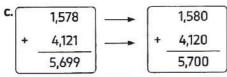
Exercise

1.

a.

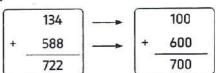
$$\begin{array}{c|cccc}
 & 19 & \longrightarrow & 20 \\
+ & 32 & \longrightarrow & + 30 \\
\hline
 & 50 & & 50
\end{array}$$



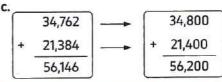


2.

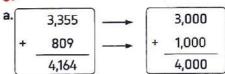
$$\begin{bmatrix}
726 \\
+ 89 \\
-815
\end{bmatrix} \longrightarrow \begin{bmatrix}
700 \\
+ 100 \\
-800
\end{bmatrix}$$



c.



3.



b. 27,000 26,721 45,000 45,398 72,119 72,000

c. 86,000 85,632 1,000 1,168 86,800 87,000

You may round in many ways. 4.

Answers

C.

d.

е

f.

- You may round in many ways.
- a. 17 + 69 = 8620 + 70 = 90
- b. 523 + 387 = 910 500 + 400 = 900
- c. 4,584 + 2,428 = 7,012 5,000 + 2,000 = 7,000
- d. 69,210 + 26,428 = **95,638** 69,000 + 26,000 = **95,000**
- e. 25,749 + 175,684 = **201,433 25,700 + 175,700 = 201,400**

f. 259,111 + 9,999 = 269,110 259,000 + 10,000 = 269,000

6.

- a. 520
- b. 601
- c. 10,980

- d. 30,000
- e. 29,324
- f. 123,573

- g. 72,000
- h. 900,660

7.

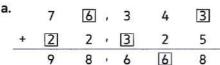
- a. >
- b. =
- c. >

- d. >
- e. <
- f. >

8.

- a. The total sum = 273 + 375 = 648 ships
- b. The number of ants = 142 + 165= 307 ants
- c. Mona has = 5,235 + 2,365 = 7,600 L.E.
- d. Number of tourists = 7,825 + 8,245 = 16,070 tourists
- e. Heba paid = 21,675 + 18,325 = 40,000 L.E.
- f. The total cost = 342,650 + 245,950 = 588,600 pounds
- g. The total number of visitors= 149,000 + 125,000 = 274,000 visitors
- h. The total number = 1,653,465 + 3,312,447 = 4,965,912

9.



9 8 · 6 6 8 b. 2 5 · 3 8 1 + 5 9 · 5 4 4

Answers of multiple choice questions

9

- 1. C 4. B
- 2. C 5. D
- 3. D 6. B

- 7. D
- 8. D 11. B
- 9. D

10. C

12. C

13. C

Exercise 8

1.

b.

- 4,417
- 2,208

- 3,000

c.

1,816

1,066

750

- 1,000

1,000

d.				
	25,884]		26,000
-	18,875		_	19,000
	7,009			7,000

e.

46,835

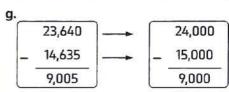
19,727

27,108

47,000

20,000

27,000



h.

538,109

321,299

216,810

538,000

321,000

217,000

2.

- a. 2,654 1,431 = **1,223**
 - 3,000-1,000=2,000
- b. 3,458 2,064 = 1,394 3,000 – 2,000 = 1,000
- c. 7,326 5,296 = 2,030 7,000 – 5,000 = 2,000

Answers

- d. 70,623 30,611 = 40,012 71,000 – 31,000 = 40,000
- e. 238,763 18,764 = **219,999** 239,000 – 19,000 = **220**,000
- f. 853,004 45,878 = **807,126 853,000** – 46,000 = **807,000**
- g. 542,302 281,976 = **260,326 542,000** – **282,000** = **260,000**
- h. 721,010 350,891 = **370,119** 721,000 – 351,000 = 370,000
- 3. a. 2,132 b. 901 c. 1,243 d. 1,306 e. 6,606 f. 44,078 g. 204,655 h. 88,223 i. 2,549 j. 4,001
- 4. a.> b.< c.> d.> e.=

5.

- a. The remaining distance = 675 = 239 = 436 km
- **b.** The money remained = 8,460 3,650 = 4,810 pounds
- c. The number of males = 7,258 - 2,147 = 5,111 males
- d. Number of ants = 20,000 - 1,500 = 18,500 ants
- e. Mohamed paid = 668,500 342,650= 325,850 pounds

- f. The difference = 517,901 112,211 = 405,690 people
- g. Mohamed paid = 7,250 + 4,750 = 12,000 L.E. The reminder = 15,000 -12,000 = 3.000 L.E.
- h. The ant have to go = 3,548 1,672= 1,876 cm
- i. The number of more ants = 3,452 1,267 = 2,185 ants
- j. The difference = 255,000 6,200= 248,800 ants

6.

a.		8	3	9	7
	-	5	3	7	3
		3	0	2	4

b.	2	3	6	4
-	- 1	2	2	5
	1	1	3	9

Answers of multiple choice questions

- 1. B
- 2. C
- 3. C

- 4. B
- 5. A
- 6. C

- 7. B
- 8. C 11. A
- 9. A

Concept 2

Solving Multistep Problems

Exercise 9

1.

a.
$$x = 34,750 + 19,051 = 53,801$$

b.
$$y = 121,725 - 10,714 = 111,011$$

d.
$$m = 41,621 + 52,321 = 93,942$$

2.

a. Bar model:

14,000		
n	6,000	

Solution:

$$n = 14,000 - 6,000 = 8,000$$

b. Bar model: Solution:

m 35,462 2.741

m = 2.741 + 35,462 = 38,203

c. Bar model: Solution:

b 53,500 75,200

b = 75,200 + 53,500 = 128,700

d. Bar model: Solution:

7,549 4,641 ٧

v = 7.549 - 4.641 = 2.908

e. Barmodel:

935,075 725,625

Solution:

c = 935,075 - 725,625 = 209,450

f. Bar model:

Solution:

13,280 d 5,420

d = 13.280 - 5.420 = 7.860

g. Bar model: Solution:

7,000 5,000 a

a = 7,000 - 5,000 = 2,000

h. Bar model: Solution:

810,775 205,925

f = 810,775 - 205,925 = 604,850

3. a. 11,091 **b.** 4,000 **c.** 3,310

d. 3,107

e. 175

f. 4,250

g. 2,000

h. 4,500 i. 210

j. 84

k. 3,625,269

4.

a. Equation: 1,234 + 1

= 2,340

2,340 1.234

Solution:

l = 2,340 - 1,234 = 1,106 girls

b. Equation: 2,500 + n

= 12,000

12,000 2,500

Solution: n = 12,000 - 2,500

= 9,500 species

c. Equation: 2,164 + x = 5,328

Solution:

x = 5.328 - 2.164

5,328 2.164

 $= 3.164 \, \text{males}$

Answers

d. Equation: 700 + y = 1,200

Solution: y = 1,200 - 700 1,200 = 500 ants 700

5. Solution: l = 4 8

Answers of multiple choice questions

- 1. D
- 2. B
- **3.** A

- 4. D
- 5. D
- **6.** B

- **7.** B
- 8. D
- 9. C

10. C

Exercise 10

1.

a. Mohamed paid = 6,250 + 3,750 = 10,000 L.E.

The left = 16,000 – 10,000 = 6,000 L.E.

b. You read in two weeks = 423 + 346 = 769 pages

The left = 900 - 769 = 131 pages

- c. Bassem and Mina collected
 = 198 + 357 = 555 stamps
 The number of more stamps Sara collected = 743 555 = 188 stamps
- d. The number of toys in first , second and third months

= 6.580 + 7.214 + 5.975 = 19.769toys

e. The number of ants in the two colonies = 27,385 + 52,890 = 80,275 ants

The number of more ants to join = 173,500 - 80,275 = 93,225 ants

f. The number of visitors in January ,February and March

= 59,000 + 27,525 + 32,975

= 119,500 visitors

The needed visitors to reach the count = 150,000 – 119,500

= 30,500 visitors

g. The population of Matrouh and South Sinai = 429,999 + 108,951 = 538,950 people

The more population in Matrouh and South Sinai than New Valley

- = 538,950 256,088
- = 282,862 people
- h. The number of ants on Monday

= 1,725 + 22,750 + 6,075

= 30,550 ants in the large colony

The number of ants joined the colony since Monday

= 50,750 - 30,550 = 20,200 ants

- i. The total of calories
 - = 340 + 190 + 85 + 255
 - = 870 calories

So, Ahmed can eat today

2,000 - 870 = 1,130 calories

2.

- a. The number of red shirts
 - = 18,421 + 43,218 + 14,132
 - = 75,771 shirts

The number of green shirts

- = 15,436 + 33,142 + 5,347
- = 53,925 shirts

The number of more red shirts than green shirts = 75,771 – 53,925

= 21,846 shirts

b. The number of small shirts

= 15,436 + 18,421 = 33,857 shirts

The number of large shirts

= 5.347 + 14.132 = 19.479 shirts

The number of more small shirts than large shirts = 33,857 – 19,479

= 14,378 shirts

Unit 2 Assessment

- 1. 1. B
- 2. A
- 3. A

- 4. B
- 5. D
- 6. B

- 7. C
- 2. 1. 123,573
- 2. 0
- **3.** 15,595

- 4.5,7
- **5**. 675
- 6. 63

3. C

- 7. 6,650
- 8. 3,193
- 2. B
- 5. C
- 6. B

4. A 7. D

1. A

4.

3.

- 1. a. 77,777
- b. 489
- 2. Equation: 5 + 6 + m = 18

11 + m = 18

Solution: m = 18 - 11 = 7 pieces

3. Mohamed paid = 7,250 + 4,750= 12,000 L.E.

The left = 15,000 - 12,000 = 3,000 L.E.

4. The number of ants = 692 + 165

= 857 ants

ANSWERS OF

3 TINU

Concepts of Measurement

▶ Concept 1 : Metric Measurement

▶ Concept 2 : Measuring Time



Concept 1

Metric Measurement

Exercise 11

- 1. Centimeter
- 2. Kilometer
- 3. Kilometer
- 4. Millimeter
- 5. Kilometer
- 2.
 - a. 1,000 b. 12,000 c. 160
 - d. 120
- e. 100
- f. 500

- **a.** 700
- h. 40
- i. 7 L 53

- i. 900
- k. 7
- o. 3
- m. 845
- n. 348
- p. 9,250 q. 27,055 r. 4,23
- 5. 89 ,7
- t. 2,000
- 3. a. 2 m , 30 cm b. 4 m , 78 cm
 - c. 8 dm > 5 cm d. 3.040 m
- e. 591 cm
- f. 75 mm

- 4.
- a. 8 mm , 8 m , 8,000 cm , 8 km
- b. The distance = $7 \times 3 = 21 \text{ km}$ $= 21,000 \, \mathrm{m}$
- c. 1.8 m = 800 cm
 - 2. It traveled = $10 \times 1 = 10 \text{ km}$

It traveled $= 10,000 \,\mathrm{m}$

It traveled = 1,000,000 cm

d. The length of a line = $100,000 \times 1$

= 100,000 cm

 $= 1.000 \, \mathrm{m}$

e. The length of a line = 100,000 × 1

= 100,000 cm

 $= 1.000 \, \text{m}$

=1 km

Answers of multiple choice questions

- 1. C
- 2. C 5. B
- 3. C 6. B

- 4. A 7. C
- 8. C
- 9. A

- 10. C
- 11. B
- 12. B

13. D

Exercise 12

- **1. a.** 3.000 d. 5,000
- b. 4,000 e. 7
- c. 8.000

g. 5

i. 6,454

- f. 19 i. 5,321
- h. 30
- k. 6,450
- L 2,456
- m. 35,086 n. 4,535
 - o. 14
- p. 7,324
- 2. a. 4 , 590
- b. 8 , 400
- c. 7,414
- d. 2.030
- 3. a. >
- b. <
- c. <

- d. =
- e. >
- f. <
- 4. 4,769 g , 6 kg , 68,000 g , 980 kg 2 tons
- 3,493 grams
 - = 3 kilograms and 493 grams
- The weight
 - = 14 kilograms and 89 grams
 - = 14,000 + 89 = 14,089grams

- a. Bowling ball , Basketball , Tennis ball , Table tennis ball
 - b. The total mass
 - = (616 + 616) + (145 + 145)
 - = 1,232 + 290 = 1,522 grams
 - =1 kg, 522 g
 - So, it is less than 2 kg

Answers of multiple choice questions

- 1. D
- 2. B
- 3. D

- 4. C
- 5. D
- 6. C

- 7. D
- 8. A
- 9. C

- **10.** A
- 11. A
- **12.** B

13. C

Exercise 13

- 1. a. 2,500
- b. 6,000
- c. 3,000
- d. 9,000
- e. 50,000
- 1. 7,000
- g. 6
- f. 2 h. 10
- i. 73,000
- j. 560
- k. 8,500
- l. 19.325
- m 84,084
- --
- o. 5,328
- n. 5 , 700 p. 2 , 222
- ~ (135/
- r. 7 , 5
- **q.** 61,254 **s.** 541 , 541
- t. 4.234
- u. 7,400
- v. 15
- 2. a. 6 , 360
- b. 9 , 425
- c. 8,910
- d. 2,250

- 3. a. 5,000
- b. 8,035
- c. 6,000
- d. 4
- e. 11,495
- f. 4,700
- g. 25,294

i. 445

- h. 10,100 j. 10
- 4. 4,000 mL , 5L , 6L , 13,000 mL
- 5.
- a. What Mona drunk = 4 L = 4,000 mL
- **b.** 45 L = 45,000 mL
- c. The left = 3 L 1 L , 500 mL
 - = 3,000 mL 1,500 mL = 1,500 mL
- d. She needs = 10 L 5 L , 245 mL
 - = 10,000 mL 5,245 mL
 - $= 4.755 \, \text{mL}$
- e. The car used
 - = 20 L , 500 mL 15 L , 250 mL
 - = [20 L 15 L], [500 mL 250 mL]
 - = 5 L , 250 mL

Answers of multiple choice questions

- 1. B
- 2. D
- 3. A

- 4. D
- 5. A
- 6. D

- **7.** C
- 8. A
- 9. D

- **10.** D
- **11.** D
- **12.** B

Concept 2

Measuring Time

Exercise 14

- 1. a. 4:15
- b. 1:50
- c. 7:45

- 2. a. 7:00
- It's 7 o'clock
- **b.** 8:10
- , It's 10 past 8
- c. 4:40
- It's 20 to 5

3.

Minute	Second
1	60
2	120
3	180
4	240
5	300
6	360
7	420
8	480
9	540
10	600

Hour	Minute		
1	60		
2	120		
3	180		
4	240		
5	300		
6	360		
7	420		
8	480		
9	540		
10	600		

Day	Hour	
1	24	-
2	48	
3	72	
4	96	
5	120	
6	144	
7	168	
8	192	
9	216	
10	240	

Week	Day
-1	7
2	14
3	21
4	28
5	35
6	42
7	49
8	56
9	63
10	70

4.	a. 35	b . 120	c. 240
	d. 128	e. 300	f. 180
	g. 120	h. 3,4	i. 2,10
	j. 2 , 2		
5.	a. 630	b. 10	c. 17
	d. 29	e. 116	f. 60
	g . 630	h. 130	i. 260
	j. 375		
6.	a. 4:10	b. 4:51	c. 3:20
	d. 4:16	e. 6:05	f. 9:02

h. 4:18

i. 5:55

7.

a. Elapsed time

g. 2:25

	Hours		Minutes
	9	:	50
_	1	:	20
	8	:	30

b. Elapsed time

	Hours		Minutes
	210	:	77
_	6	:	40
	3	:	37

c. Elapsed time

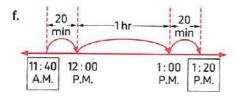
Hours		Minutes	
	78	:	60 <u>0</u> 0
_	4	:	27
	3	:	33

d. Elapsed time

	Hours		Minutes
	9	:	43
-	6	:	43
	3	ě	00

e. Elapsed time

	Hours		Minutes
	11/12		°00
-	6	:	15
	5	:	45



Elapsed time = 1 hr + 20 min + 20 min= $1 \text{hr} \cdot 40 \text{ min}$

8.

a. Number of minutes =
$$(2 \times 60) + 15$$

= $120 + 15$
= 135 minutes

b. Number of hours =
$$19 \times 3$$

= $19 + 19 + 19$
= 57 hours

c. Total =
$$3 + 4 + 5 = 12$$
 hours
= $12 \times 60 = 720$ minutes

9.

a.

	Hours		Minutes
	7		00
+	2	•	40
	9	:	40

The party got over at 9:40 in the evening.

b.

	Hours		Minutes	
	8	:	35	
+	1	:	30	
	8	:	.65	
	10		05 A.M.	

She finished at 10:05 A.M.

c.

	Hours		Minutes	
. 31	5	:	10	
+	0	:	57	
	5	:	Ы	
	6	:	07 P.M.	

The train arrived at 6:07 P.M.

d.

3	Hours	Minutes	
	9 10		°505
-	7	:	50
	2		15

The elapsed time of the game is 2 hours and 15 minutes

e.

	Hours		Minutes
	3		30
+	0	1	45
+	0	1	25
	8	:	100
	4	:	40 P.M.

He finished at 4:40 P.M.

f. [1]

8n =	Hours		Minutes
	1		22
+	2	:	12
+	1	:	57
	K	:	,91
	5	:	31

No , the girls don't have enough time.

[2] The total time of the two shortest movies is

Hours		Minutes
1	:	22
1	:	57
2	:	79
3		19
	Hours 1 1 2 3	Hours 1 : 1 : 2 : 3 :

	Hours		Minutes	
	5	:	30	P.M.
+	3	:	19	
_	8		49	P.M.

The movies will end at 8:49 P.M.

g.		Hours		Minutes
		7	:	42
	-	6		30
		1	:	12

The elapsed time of the ant looking for food is 1:12

Answers of multiple choice questions

1. C 2. C 4. D 5. A **3.** C

7. D

5. A 6. D 8. C 9. C

10. A

8. C 11. C

12. D

Exercise 15

First: Problems involving length

1.

The tall will be = $44 \, \text{cm} \cdot 5 \, \text{mm} + 35 \, \text{cm}$ $=79 \, \text{cm} \cdot 5 \, \text{mm}$

2.

The left

- $= 63 \,\mathrm{m} [56 \,\mathrm{m} + 21 \,\mathrm{cm}]$
- $= [62 \,\mathrm{m} , 100 \,\mathrm{cm}] [56 \,\mathrm{m} , 21 \,\mathrm{cm}]$
- =6 m , 79 cm

3.

The two ant lines together

- = 30 cm + 500 mm
- = 30 cm + 50 cm = 80 cm

4.

Ant from colony A walked 2 km

Ant from colony B walked 3,000 m

 $= 3 \, \text{km}$

So, the farthest is the ant from colony B

The difference = 3 - 2 = 1 km

5.

His tall was = $[1 \, \text{m}, 6 \, \text{cm}] - 10 \, \text{cm}$ $= 106 - 10 = 96 \, \mathrm{cm}$

Second: Problems involving mass

6.

Adam bought = 5 kg + 200 g=5,000 + 200= 5,200 g

7.

The total mass

= [8 kg + 10 kg] + [500 g + 225 g + 275 g]

= 18 kg + 1,000 g = 18 kg + 1 kg = 19 kg

8.

The consumed = 25 + 37 = 62 gThe left = $950 - 62 = 888 \, \text{g}$

9.

The onions weight

= [2 kg, 920 g] - [1,075 g]

= 2,920 - 1,075 = 1,845 a

The weight of potatoes and onions

= 2,920 + 1,845 = 4,765 q

10.

Ali's cat weighs = 7 kg , 450 g

Ali's dog weighs = 17 kg , 120 g

His two pets weigh in all now

= [7 kg, 450 g] + [17 kg, 120 g]

= [24 kg, 570 g]

Third: Problems involving capacity

11.

 $20.000 \, \text{mL} = 20 \, \text{L}$

The tank needs = 100 - 20 = 80 L

12.

The milk he sold in the 5 days

= [46L, 200 mL] + [53L, 195 mL]= 99 L , 395 mL

13.

Mr. Emad bought = $4 \times 2 = 8 L$ $= 8,000 \, \text{mL}$

The students drunk

- $= 8,000 \, \text{mL} [2 \, \text{L} \, , \, 829 \, \text{mL}]$
- $= 8,000 2,829 = 5,171 \,\mathrm{mL}$

Fourth: Problems involving time

14.

The bus will reach at

	hr.	:	min.
	4	1	30 P.M.
+	1	:	25
	5	- :	55 P.M.

15.

It will end at

hr		min.
1111.		
6	:	30 P.M.
3	:	15
9	:	45 P.M.
	3	6 :

16.

A pharaoh ant takes = 45 days

A carpenter ant takes

- $= 12 \text{ weeks} = 12 \times 7 = 7 \times [10 + 2]$
- = $[7 \times 10] + [7 \times 2] = 70 + 14 = 84$ days So 3a carpenter ant takes longer to grow.

The difference = 84 - 45 = 39 days

17.

A worker ant takes = 250 min.

A queen ant takes

- $= 9 \text{ hours} = 9 \times 60 = 540 \text{ min.}$
- So , a queen ant sleeps longer

The difference = 540 - 250 = 290 min.

- 18. The total she gave
 - = (12 m, 53 cm) + (18 m, 35 cm)
 - $+ [9 \,\mathrm{m} , 7 \,\mathrm{cm}] = 39 \,\mathrm{m} , 95 \,\mathrm{cm}$
 - The left = 40 m [39 m + 95 cm]= 5 cm

Answers of multiple choice questions

- 1. D 2. C 3. D 4. B
- 5. D 6. A 7. D

Exercise 16

First: Problems involving length

- 1. Ants walk in 5 days $= 5,000 \times 5 = 25,000$ meters
- 2. The distance = 750 × 5 = 3,750 meters
- 3. Each piece length = 12 ÷ 3 = 4 m = 4 × 100 = 400 cm
- 4. 5,000 m = 5 km
 Sara walked in all = 5 × 9 = 45 km

Second: Problems involving mass

- 5. The mass of 4 boxes = $320 \times 4 = 1,280 \text{ kg}$
- 6. What he gains in 5 weeks $= 500 \times 5 = 2,500 \text{ g}$

His mass at the end

- = 100 kg + 2,500 g
- = 100,000 g + 2,500 g = 102,500 g
- $= 102 \, \text{kg} \, , \, 500 \, \text{g}$
- 7. The weight carried by each ant = 1 × 50 = 50 g

27

The weight carried in all $= 50 \times 10 = 500 \text{ g}$

Third: Problems involving capacity

- 8. A water purifier cleans each day = 10 L , 50 L = 10,000 mL + 50 mL = 10,050 mL Water will be cleaned in 10 days = 10,050 × 10 = 100,500 mL = 100 L , 500 ml
- He needs per day
 = 500 × 4 = 2,000 mL = 2 L
 He needs for 1 week = 2 × 7 = 14 L
- 10. Each person has = 32 ÷ 8 = 4 L Fourth: Problems involving time
- **11.** He slept = $8 \times 5 = 40$ hours
- 12. An ant work in 3 days = 19 × 3 = 57 hours
- 13. Half an hour = 30 min
 The total = 30 × 5 = 150 min

14.

Day Climbing distance		Reversing distance	Total distance traveled	
1	4 m	2 m	2 m	
2	4 m	2 m	4 m	
3	4 m	2 m	6 m	
4	4 m	2 m	8 m	
5	4 m	2 m	10 m	
6	4 m	2 m	12 m	
7	4 m	2 m	14 m	
8	4 m	2 m	16 m	
9	4 m	0	20 m	

* It takes 9 days (get out of the well)

Answers of multiple choice questions

1. C 2. B 3. B 4. B 5. D 6. C 7. D 8. C

Unit 3 Assessment

- 1. 1. C 2. B 3. C 4. B 5. A 6. B 7. B 2. 1.35 2. 9 3. 15,423 4.35,076 5.31,310 6.845 7.9:00 8.5:09
 - **3.** 1. B 2. B 3. A 4. A 5. C 6. D 7. A
- 1. The total mass = $300 \times 6 = 1,800 \text{ g}$ = 1 kg,800 g
- 2. The total mass = [3 kg , 400 g] + [5 kg , 217 g] = 8 kg , 617 g

4.

- Height of each book = 8 cm
 5 mm = 85 mm
 The total height = 85 × 10 = 850 mm
 = 85 cm
- 4. a. 9,450 b. 10,100 c. 7,50 d. 7,500

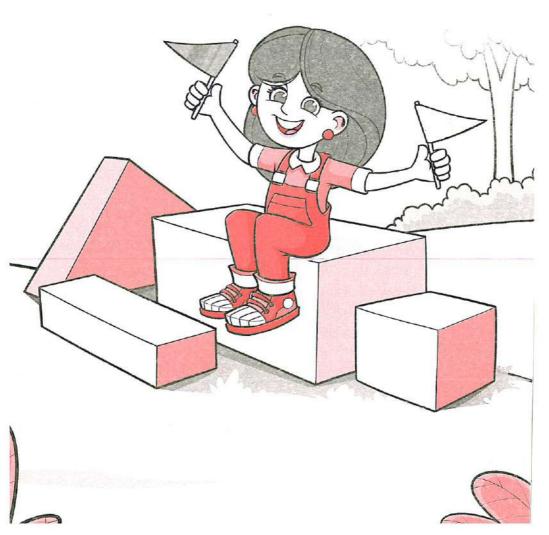
ANSWERS OF

UNIT 4

Area and Perimeter

▶ Concept 1:

Explore Area and Perimeter



Concept 1

Explore Area and Perimeter

Exercise 17

- 1. a. P=5+2+5+2=14 m b. P=12+9+12+9=42 cm
 - c. P = 17 + 4 + 17 + 4 = 42 cm
- 2. a. $P = (2 \times 10) + (2 \times 7) = 20 + 14$ = 34 m
 - **b.** $P = [2 \times 15] + [2 \times 9] = 30 + 18$ = 48 mm
 - c. $P = (2 \times 25) + (2 \times 12) = 50 + 24$ = 74 km
- 3. a. $P = 2 \times (24 + 6) = 2 \times 30 = 60 \text{ m}$ b. $P = 2 \times (17 + 13) = 2 \times 30$
 - = 60 mmc. $P = 2 \times [45 + 20] = 2 \times 65$
 - $= 2 \times (60 + 5)$ $= (2 \times 60) + (2 \times 5)$ = 120 + 10 = 130 dm
- 4. a. $P = 4 \times 8 = 32 \text{ km}$
 - b. $P = 4 \times 4 = 16 \text{ m}$
 - c. $P = 4 \times 16 = 4 \times (10 + 6)$ = $4 \times 10 + 4 \times 6$ = 40 + 24 = 64 cm

5.

a. First formula:

$$P = (2 \times 3) + (2 \times 2) = 6 + 4 = 10 \text{ m}$$

Second formula :

$$P = 2 \times [3 + 2] = 2 \times 5 = 10 \text{ m}$$

b. First formula: $P = 4 \times 9 = 36$ cm

Second formula:

$$P = 9 + 9 + 9 + 9 = 18 + 18 = 36 \text{ cm}$$

c. First formula:

$$P = 4 \times 27 = 4 \times [20 + 7]$$

$$= [4 \times 20] + [4 \times 7] = 80 + 28 = 108 \text{ cm}$$

Second formula:

$$P = 27 + 27 + 27 + 27 = 54 + 54$$

= 108 cm

d. First formula:

$$P = (2 \times 30) + (2 \times 50) = 60 + 100$$

 $= 160 \, \text{mm}$

Second formula:

$$P = 50 + 30 + 50 + 30 = 80 + 80$$

 $= 160 \, \text{mm}$

e. First formula:

$$P = 67 + 21 + 67 + 21 = 88 + 88 = 176 \text{ m}$$

Second formula:

$$P = 2 \times (67 + 21) = 2 \times 88$$
$$= 2 \times (80 + 8)$$
$$= (2 \times 80) + (2 \times 8)$$
$$= 160 + 16 = 176 \text{ m}$$

f. First formula:

Second formula:

$$P = 4 \times 33 = 4 \times (30 + 3)$$

= $(4 \times 30) + (4 \times 3)$
= $120 + 12 = 132 \text{ mm}$

- 6. a. 2
- b. $[2 \times l] + [2 \times w]$
- c. 4 ,5

e. 12

- f. 24
- g. 26 cm

d. 12

- 7. a. $P = 4 \times 4 = 16 \text{ cm}$
 - **b.** $P = 2 \times [2 + 5] = 2 \times 7 = 14 \text{ cm}$
- 8. $P = 2 \times [6 + 4] = 2 \times 10 = 20 \text{ m}$

9.

The perimeter = $[2 \times 7] + [2 \times 4] = 14 + 8$ = 22 meters.

10.

The perimeter =
$$2 \times [8 + 6] = 2 \times 14$$

= $2 \times [10 + 4]$
= $[2 \times 10] + [2 \times 4]$
= $20 + 8 = 28 \text{ cm}$

11.

The perimeter =
$$2 \times [16 + 14] = 2 \times 30$$

= 60 cm

12.

The length of the border of Sarah's $cake = 4 \times 30 = 120 cm$

13.

The perimeter of the frame $= 4 \times 63 = 4 \times [60 + 3] = [4 \times 60] + [4 \times 3]$ $= 240 + 12 = 252 \,\mathrm{mm}$

14.

The length of the rope

$$= 2 \times [105 + 68] = 2 \times 173$$

$$= 2 \times [100 + 70 + 3]$$

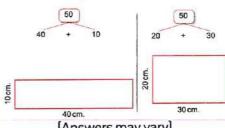
$$= 2 \times 100 + 2 \times 70 + 2 \times 3$$

$$= 200 + 140 + 6 = 346 \,\mathrm{m}$$

15.



- 1. Half of perimeter $= l + w = 100 \div 2 = 50 \text{ cm}$
- 2. The rectangle dimensions can be



[Answers may vary]

Answers of multiple choice questions

- 1. 2.
- C 6. C 7. 5. B 8. C
- 9. C

Exercise 18

- a. $A = 1 \times w = 9 \times 3 = 27 \text{ cm}^2$ 1.
 - **b.** $A = s \times s = 6 \times 6 = 36 \text{ cm}^2$

Α

- c. $A = s \times s = 5 \times 5 = 25 \text{ km}^2$
- **d.** $A = 1 \times w = 18 \times 10 = 180 \text{ m}^2$
- **e.** $A = 1 \times w = 8 \times 6 = 48 \text{ mm}^2$
- f. $A = l \times w = 12 \times 4 = 48 \text{ cm}^2$
- 2. a. Area = $4 \times 6 = 24 \text{ cm}^2$

Perimeter =
$$2 \times [4 + 6]$$

$$= 2 \times 10 = 10 + 10$$

= 20 cm

b. Area = $5 \times 3 = 15 \text{ cm}^2$

Perimeter =
$$2 \times [5 + 3]$$

$$= 2 \times 8 = 16 \text{ cm}$$

- c. Area = $9 \times 9 = 81 \,\text{m}^2$
 - Perimeter = $4 \times 9 = 36 \text{ m}$
- 3. a. side length, itself
 - b. 16 m²
- c. 36
- d. 64
- e. 49
- f. 81
- **g**. 24 cm²
- h. 24
- i. 15 cm²
- j. 80 mm²
- 4. $A = 5 \times 10 = 50 \text{ cm}^2$
- 5. $A = 25 \times 10 = 250 \text{ m}^2$
- 6. The area = $9 \times 5 = 45 \text{ cm}^2$
- 7. $A = 4 \times 4 = 16$ square meters
- 8. $A = 5 \times 5 = 25 \text{ m}^2$
- 9.

The area of the glass = $8 \times 8 = 64 \text{ cm}^2$

10.

The area = $3 \times 3 = 9 \text{ m}^2$

11.

The area of the garden = $7 \times 5 = 35 \text{ m}^2$

12.

The area of the glass = $8 \times 6 = 48 \text{ m}^2$

13.

The area of the ant farm = 20×8 = 160 cm^2

14.

The area of the ground = $4 \times 4 = 16 \text{ m}^2$

15.

Area of rectangle = $7 \times 5 = 35 \text{ cm}^2$

, area of square = $6 \times 6 = 36 \text{ cm}^2$

So, the greater in area is the square.

16.

First:



 $A = 9 \times 4 = 36$ square carpet tiles

$$P = 2 \times [9 + 4] = 2 \times 13$$

 $= 2 \times [10 + 3] = [2 \times 10] + [2 \times 3]$

= 20 + 6 = 26 units

(Answers may vary)

Second:



 $A = 6 \times 6 = 36$ square carpet tiles $P = 4 \times 6 = 24$ units [Answers may vary]

17. Length = 12 cm or 8 cm Explanation:

Area	Length	Width	Perimeter
24 = 24 × 1	24	1	(24+1) × 2 = 25 × 2 = 50 > 30
24 = 12 × 2	12	2	(12+2) × 2 = 14 × 2 = 28
24 = 8 × 3	8	3	[8+3]×2=11×2=22
24 = 6 × 4	6	4	[6+4] × 2 = 10 × 2 = 20

Answers of multiple choice questions

- 3. C

- 4. A
- 5. D 8. A
- 6. D

7. A

9. B

10. D

Exercise 19

- a. $x = 15 \div 5 = 3 \text{ cm}$
 - **b.** $x = 50 \div 10 = 5$ units
 - c. $x = 99 \div 11 = 9 \text{ m}$
- 2. a. $x = [24 \div 2] - 8$ = 12 - 8 = 4 cm
 - **b.** $x = [26 \div 2] 5$

$$= 13 - 5 = 8$$
 units

c.
$$x = (44 \div 2) - 15$$

= 22 - 15 = 7 m

- a. v = 4 m because: $4 \times 4 = 16$ 3.
 - **b.** v = 7 cm because: $7 \times 7 = 49$
 - c. y = 10 cm because: $10 \times 10 = 100$
- a. $y = 20 \div 4 = 5 \text{ cm}$ 4.
 - **b.** $y = 12 \div 4 = 3 \text{ km}$
 - c. $y = 44 \div 4 = 11 \text{ m}$
- a. 5 5.
- b. 6
- c. 7

- d. 10 cm
- P. 9 f. 5
- h. 16 **g**. 7 km
- i. 9

- i. 5
- k. 7 km
- L. 28 m
- m. 9 cm
- n. 63 m²
- 6. a. 50 cm² 30 cm
 - b. 2 m
- 14 m
- c. 8 km
- 34 km

- d. 5 dm
- $30 \, dm^2$
- e. 7 mm
- 14 mm²
- a. 81 m² 7.
- 36 m •
- b. 8 cm
- 32 cm ,
- c. 6 mm
- $36 \, \text{mm}^2$

8.

$$l = A \div w = 28 \div 4 = 7 \text{ cm}$$

$$P = 2 \times (L + w) = 2 \times (7 + 4) = 2 \times 11$$

9.

10.

11.

12.

 $l = 6 + 2 = 8 \, \text{m}$

$$l = w = 7 cm$$

because 7 × 7

= 49

 $A = 1 \times w = 7 \times 6 = 42 \text{ m}^2$

 $s = P \div 4 = 40 \div 4 = 10 \text{ m}$

 $A = 1 \times w = 8 \times 6 = 48 \text{ m}^2$

 $A = s \times s = 10 \times 10 = 100 \text{ m}^2$

7 cm.

 $=7 \, \mathrm{m}$

7 cm.

 $l = [P \div 2] - w = [26 \div 2] - 6 = 13 - 6$

1.

2. B

3. B

4. C

5. A

6. D

7. C

8. A

9. C

10. D

11. D

Answers of multiple choice questions

Exercise 20

1. a. $A = 19 \text{ m}^2$

 $P = 22 \, \text{m}$

b. $A = 276 \text{ m}^2$

 $P = 84 \, \text{m}$

c. $A = 33 \text{ cm}^2$

 $_{2}$ P = 28 cm

d. $A = 41 \text{ cm}^2$

P = 28 cm

e. $A = 46 \,\text{m}^2$

P = 30 m

f. $A = 40 \text{ cm}^2$

, P = 36 cm

- 2. $A = 24 \text{ cm}^2$
- 3. $A = 38 \text{ cm}^2$
- 4. $A = 84 \text{ cm}^2$

 $P = 46 \, cm$

10

13.

Width of the rectangle = $A \div l = 36 \div 9$

= 14 + 14 = 28 m

 $P = 2 \times (1 + w) = 2 \times (8 + 6) = 2 \times 14$

= 4 cm A = 20 + 21 $= 41 \text{ cm}^2$

5.

Side length of the square = 6 cm

[because $6 \times 6 = 36$]

 $P(rectangle) = 2 \times (l + w)$

 $= 2 \times [9 + 4] = 2 \times 13$ = 13 + 13 = 26 cm

 $P[square] = s \times 4 = 6 \times 4 = 24 cm$

So , the rectangle has the greater perimeter.

P = 40 cm

Answers of multiple choice questions

C

1. B

2.

3. A

4. C

5. D

6. C

7. B

Unit 4 Assessment

- 1. 1. A
- **2**. C
- 3. D

- 4. C
- 5. C
- 6. C

- 7. D
- 2. 1. 22
- 2. 49
- 3. 4
- 4. 2×1 , 2×w
- 5. 20

- 6, 27
- **7.** 5
- **8**. 36

- 3. 1. C
- **2**. D
- 3. A

- 4. D
- **5.** B
- 6. C

7. C

- 4.
- 1. The area = $7 \times 4 = 28 \text{ m}^2$
- 2. $P = 4 \times 7 = 28 \text{ m}$

$$A = 7 \times 7 = 49 \text{ m}^2$$

3. First rectangle:

$$A = 1 \times w = 6 \times 3 = 18 \text{ cm}^2$$

Second rectangle:

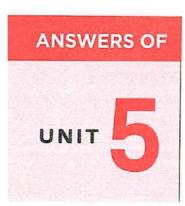
$$A = 18 \text{ cm}^2$$
, $w = 2 \text{ cm}$

$$l = A \div w = 18 \div 2 = 9 \text{ cm}$$

- x = 9 cm
- 4. The length of the fence

$$= 4 + 7 + 5 + 6 + 9 + 13 = 44 \text{ m}$$

The cost = $44 \times 10 = 440$ L.E.



Multiplication as a Relationship

▶ Concept 1 : Multiplicative Comparisons

► Concept 2 : Properties and Patterns of Multiplication



Exercise 21

1.

- a. $5 \times 7 = 35$
- b. $4 \times 4 = 16$
- c. $2 \times 8 = 16$
- d. $9 \times 3 = 27$
- e. $6 \times 2 = 12$
- f. 3

2.

- a. $3 \times 6 = 18$
- b. $7 \times 2 = 14$
- c. $5 \times 5 = 25$
- d. $4 \times 2 = 8$
- e. $4 \times 9 = 36$
- $f. 8 \times 4 = 32$ h. $5 \times 5 = 25$
- $q.5 \times 8 = 40$

i. $6 \times 9 = 54$

3.

- a. Five 3 3 $3 | 3 | 3 | ,15 = 5 \times 3$
- $7 | 7 | ,28 = 4 \times 7$ b. Four 7
- c. Three $[9 \ 9 \ 9]$, $27 = 3 \times 9$
- d. Five 2 2 2 2 2 ,10 = 5 × 2
- e. Four $\begin{bmatrix} 3 & 3 & 3 & 3 \\ 3 & 12 & 4 \times 3 \end{bmatrix}$
- f. Three $[6 \ 6 \ 6]$, $18 = 3 \times 6$
- g. Four [6|6|6|6], $24 = 4 \times 6$
- h. Five [7 7 7 7],35 = 5 × 7
- i. 9
- i. 3 m. 4
- k. 56

1. 9 o. 2

- n. 4

- 4.
- a. 20,4
- b. 24,3
- c. 24,8
- d. 48,8

5.

40

Hany has 8 photos.

Answers of multiple choice questions

- 1. A
 - 2. A
- 3. A
- 4. D

- 5. C
- 6. D
- 7. A
- 8. B 11. B 12. B
- 9. B **10.** C **13.** B 14. B

Exercise 22

1.

- a. $s = 7 \times 2$
- b. $2 \times 7 = a$
- c. $18 = 6 \times m$
- d. $4 \times 3 = b$
- e. $24 = 4 \times h$
- f. $25 = 5 \times y$
- $q. 30 = 5 \times d$
- $h.7 \times 4 = m$
- i. $6 \times k = 48$
- i. $27 = b \times 9$
- $k.6 = a \times 2$
- $1.8 \times c = 24$
- m. $5 \times m = 15$

2.

- **a.** y = 50
- b. $a = 15 \div 3 = 5$
- c. $b = 21 \div 7 = 3$
- **d.** x = 12
- e. $b = 50 \div 5 = 10$ f. $m = 16 \div 4 = 4$
- q. z = 5
- **h.** $n = 18 \div 2 = 9$
- i. $k = 35 \div 5 = 7$

Answers

3.

- a. Let the number of marbles collected in May be xEquation: x = 4 × 5
- b. Let the number of cookies of Ahmed be m
 Equation: 12 = 3 × m
- c. Let the number of times be n Equation: n × 7 = 21
- d. Let the number of times Aya ran be a Equation: $a = 2 \times 4$
- e. Let the number of times Sherif has be yEquation: 18 = y × 6
- f. Let the number of sold salads be b Equation: $b = 8 \times 4$
- g. Let the number of sold dogs be k Equation: $k = 6 \times 2$

4.

- a. Equation: 5 × 6 = aAnswer: a = 30The number is 30
- **b.** Equation: $36 = 4 \times m$ Answer: $m = 36 \div 4 = 9$ The number is 9
- c. Equation: 3 × 4 = b
 Answer: b = 12
 The number of figs the older brother ate is 12

- d. Equation: n × 5 = 25
 Answer: 25 ÷ 5 = 5
 Mona sent 5 times as many as Esslam
- e. Equation: 8 × 6 = xAnswer: x = 48Wael uses 48 oranges
- f. Equation: $4 \times 3 = z$ Answer: z = 12Nora has 12 pounds

5.

- a. Equation: $6 = a \times 2$ Answer: $a = 6 \div 2 = 3$
- **b.** Equation: $36 = n \times 6$ Answer: $n = 36 \div 6 = 6$
- c. Equation: $48 = b \times 4$ Answer: $b = 48 \div 4 = 12$
- **d.** Equation: $48 = m \times 6$ Answer: $m = 48 \div 6 = 8$
- e. Equation: $36 = h \times 4$ Answer: $h = 36 \div 4 = 9$

6.

What Marwan sold = $3 \times 9 = 27$ bars Esslam sold = 27 - 9 = 18 bars

Answers of multiple choice questions

- **1.** D
- 2. D
- **3.** B

- 4. B
- 5. A
- **6.** C

- 7. A
- 8. B
- 9. D

- 10. D
- 11. B
- **12.** C

Concept 2

Properties and Patterns of Multiplication

Exercise 23

1.

- a. 7
- b. 6
- c. 25

- d. 48
- e. 11
- f. 25

- g. 15
- h. 9,3
- i. 5,4

- j. 5,5 (Answers may vary)

2.

- a. a = 33
- b, b = 8
- c. a = 8

- **d**. b = 5q. k = 11
- **e.** a = 7f. b = 93h. m = 100 i. n = 7
- i. a = 1

3.

- a. 5
- d. 0
- **b**. 12 e. 0
- c. 672 f. 0

- **q**. 0
- h. 356
- i. 0

4.

- a. 80
- b. 500 e. 100
- c. 3,000

- d. 2,000 g. 1,000
- h. 100
- f. 100 i. 12,300

i. 100

5.

Badr solution's = $6 \times 7 = 42$

Salma solution's $= 7 \times 6 = 42$

, because $6 \times 7 = 7 \times 6 = 42$

So, the two solutions are correct.

6.

- $3 \times 8 = 8 \times 3 = 24$
- $4 \times 6 = 6 \times 4 = 24$ (Answers may vary)

7.

- $5 \times 4 = 4 \times 5 = 20$
- $2 \times 10 = 10 \times 2 = 20$ (Answers may vary)

8. $8 \times 6 = 6 \times 8 = 48$

000000

- 000000
- 00000000
- 000000
- 00000000 00000000
- 000000 000000
- 00000000
- 000000 000000
- 00000000 00000000
- 000000
- [Answers may vary]

9.

Tarek says that $9 \times 1.000 = 900$ and the correct is $9 \times 100 = 900$ or $9 \times 1,000 = 9.000$

- 10.
- a. a = 0
- **b.** a = 19, b = 112

Answers of multiple choice questions

- 1. B
- 2. D
- 3. D

- 4. C
- 5. C
- 6. A

- 7. B 10. C
- 8. C 11. A
- 9. A 12. A

- **13.** B
- 14. B

Exercise 24

- 1. a. 5
- b. 10
- **c.** 5

- d. 3
- e. 2
- f. 3

2.

- a. $6 \times 4 = 24$
- **b.** $10 \times 3 = 30$
- c. $2 \times 12 = 24$
- **d.** $5 \times 6 = 30$
- e. $12 \times 3 = 36$
- $f. 9 \times 6 = 54$
- $g. 8 \times 30 = 240$
- h. $20 \times 7 = 140$

3.

- a. $3 \times [2 \times 5] = 3 \times 10 = 30$
- **b.** $4 \times [6 \times 2] = 4 \times 12 = 48$
- c. $2 \times 3 \times 9 = [2 \times 3] \times 9 = 6 \times 9 = 54$
- d. $[3 \times 2] \times 3 = 6 \times 3 = 18$
- e. $[4 \times 3] \times 7 = 12 \times 7 = 84$
- f. $[4 \times 5] \times 6 = 20 \times 6 = 120$
- g. $[2 \times 5] \times 8 = 10 \times 8 = 80$
- **h.** $3 \times [4 \times 5] = 3 \times 20 = 60$
- i. $[3 \times 3] \times 7 = 9 \times 7 = 63$
- j. $[2 \times 2] \times 9 = 4 \times 9 = 36$

4.

- a. $[5 \times 4] \times 2 = 20 \times 2 = 40$
 - $5 \times [4 \times 2] = 5 \times 8 = 40$
- **b.** $[3 \times 6] \times 2 = 18 \times 2 = 36$
 - $3 \times [6 \times 2] = 3 \times 12 = 36$
- c. $[2 \times 3] \times 4 = 6 \times 4 = 24$
 - $2 \times [3 \times 4] = 2 \times 12 = 24$
- **d.** $[8 \times 5] \times 10 = 40 \times 10 = 400$
 - $8 \times (5 \times 10) = 8 \times 50 = 400$

5.

- a. 3
- **b**. 8
- c. 16

- d. 14
- e. 12
- f. 11

- g. 6
- h. 5
- i. 2

j. 9

- 6.
- a. 4 b. 2

 - e. 5
- c. 7 f. 9

- d. 3 q. 11
- **h.** 5

7.

- a. $7 \times [2 \times 10] = [7 \times 2] \times 10 = 14 \times 10$
 - = 140
- **b.** $5 \times [5 \times 10] = [5 \times 5] \times 10 = 25 \times 10$ = 250
- c. $4 \times [7 \times 100] = [4 \times 7] \times 100$ $= 28 \times 100 = 2,800$
- d. $3 \times [4 \times 1,000] = [3 \times 4] \times 1,000$
 - $= 12 \times 1,000 = 12,000$

 $= 45 \times 100 = 4.500$

e. $9 \times (5 \times 100) = (9 \times 5) \times 100$

8.

- a. $(100 \times 2) \times 3 = 100 \times [2 \times 3] = 100 \times 6$
 - = 600
- **b.** $(100 \times 5) \times 7 = 100 \times (5 \times 7) = 100 \times 35$ = 3,500
- c. $[100 \times 6] \times 3 = 100 \times [6 \times 3] = 100 \times 18$ = 1.800
- **d.** $6 \times (9 \times 10) = (6 \times 9) \times 10 = 54 \times 10$ = 540
- e. $[1,000 \times 7] \times 6 = 1,000 \times [7 \times 6]$
 - $= 1.000 \times 42 = 42.000$
- f. $600 \times 4 = 2.400$
- $q. 4.000 \times 5 = 20.000$

9.

Aisha bought = $3 \times 3 \times 4 = [3 \times 3] \times 4$ = $9 \times 4 = 36$ bottles.

10.

Hany makes = $20 \times 6 \times 2$ = $20 \times [6 \times 2] = 20 \times 12$ = L.E. 240

11.

Angy runs = $2 \times 5 \times 10 = [2 \times 5] \times 10$ = 10×10 = 100×10

12.

Heba and Ashraf multiplied the same factors but in different order.

[Choose the strategy your prefer]

13.

 $2 \times 7 \times 4 = [2 \times 7] \times 4 = 14 \times 4$

2×7×4

 $= 2 \times 4 \times 7$ [Commutative property]

= $[2 \times 4] \times 7$ [Associative property]

 $= 8 \times 7 = 56$

So $,14 \times 4 = 56$

14.

What he saves every day

= 5 - 3 = L.E.2

What he saves in 10 weeks

 $= 2 \times 5 \times 10 = [2 \times 5] \times 10 = 10 \times 10$

= L.E.100

Answers of multiple choice questions

1. B

2. B

3. B

4. C

5. C

6. C

7. D

8. D

9. A

10. A

11. B

Unit 5 Assessment

1.

1. A

2. B

3. C

4. A

5. C

6. D

7. B

2. 1. 21

2. 5 × 8 = 40

3. 1

4. 32

Commutative

6. 63

7. 3

8. 35

3.

1. C

2. A

3. D

4. B

5. C

6. C

7. B

4.

1. His brother ate = $4 \times 3 = 12$ figs

2. Hany bought = $3 \times 3 \times 4 = [3 \times 3] \times 4$ = $9 \times 4 = 36$ bottles

3. A. $[3 \times 2] \times 4 = 6 \times 4 = 24$

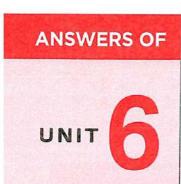
B. $5 \times 7 \times 2 = 5 \times 2 \times 7 = [5 \times 2] \times 7$ = $10 \times 7 = 70$

4. A. m = 1,000

B. m = 7

C. m = 9

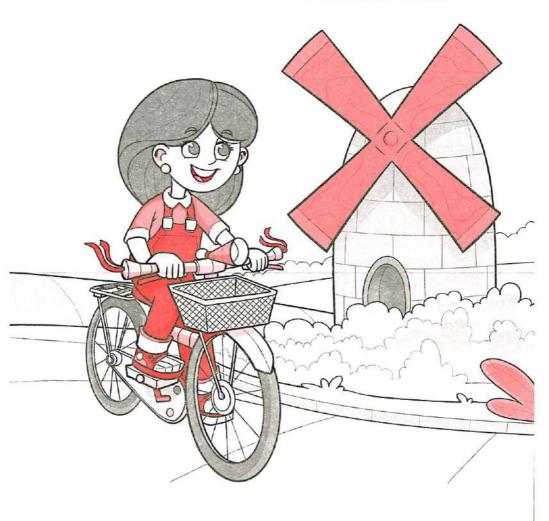
D. m = 0



Factors and Multiples

▶ Concept 1 : Understanding Factors

▶ Concept 2 : Understanding Multiples



Exercise 25

First: Exercises on factors

1.

	Number		2 tor?		5 tor?	Is 10 a factor?	
a.	26	Yes	No	Yes	No	Yes	No
b.	70	Yes	No	(Yes)	No	Yes	No
c.	15	Yes	No	(Yes)	No	Yes	(No)
d.	17	Yes	No	Yes	No	Yes	No

2.

a. 5

b. 2,5,10

c. 2

- d. 5
- e. 1,2,4,8
- f. 1, 2, 4, 5, 10

3.

- a. is a factor of
- b. is not a factor of
- c. is a factor of
- d. is a factor of
- e. is a factor of
- f. is a factor of
- q. is a factor of
- h. is a factor of
- i. is a factor of
- i. is a factor of

4.

- a. No , because 23 is an odd number
- b. yes , because the ones digit in 35 is 5
- c. yes , because 84 is an even number 98 + 4 = 12 and 12 is exiting when skip counting be 3s
- d. No , because 5 + 3 = 8 and 8 does not exist when skip counting by 3s

- e. Yes, because the number exists when skip counting by 4s
- f. No shecause the number does not exist when skip counting by 7s
- q. Yes , because 6 + 3 = 9 and 9 is existing when skip counting by 9s

5.

a. 1,2,4,5,10 and 20



Factor	T-chart
1	20
2	10
4	5

b. 1,2,4,5,8,10,20,40

Factor	rainbow
1	1
116	116
1 2 4 5	8 10 20 40

1	40
2	20
4	10
5	8

c. 1,2,3,4,6,9,12,18 and 36



	24
	30
2	18
3	12
4	9
6	6

6.

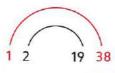
a. 1,2,3 and 6

b. 1,2,5 and 10

1 10

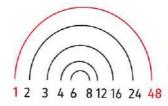
Answers

c. 1,2,19 and 38



d. 1,5 and 25

- 1 25 5 5
- e. 1,2,3,4,6,8,12,16,24 and 48



f. 1,3,7 and 21

1 21

g. 1 and 19



h. 1,5,7 and 35

i. 1 and 13



i. 1,7 and 49

7.

- a. 6
- **b.** 28
- c. 50

- d. 24
- e. 35

Second : Exercises on prime and composite numbers

- 8.
- a. prime
- b. composite
- c. prime
- d. prime
- e. primeg. prime
- f. composite
- i. prime
- h. primej. composite
- k. composite
- l. prime

- 9.
- a. 2

- b. 2
- c. 1, itself
- **d**. 2

e. 11

- f. 61,67
- g. two , prime
- h. composite, 4

10.

- a. 1,3,5 and 15, composite
- b. 1,2,3,4,6,8,12 and 24, composite.
- c. 1 and 23, prime
- d. 1 and 37, prime
- e. 1,2,3,6,9 and 18, composite
- f. 1, 2, 4, 8, 16 and 32, composite
- g. 1,3,7 and 21, composite
- h. 1,2,3,4,6 and 12, composite
- i. 1, 2, 5, 10, 25 and 50, composite
- j. 1, 2, 11 and 22, composite
- k. 1 and 31, prime
- l. 1, 2, 4, 11, 22 and 44, composite

11.

91	92	93	94	95	96	9	98	99	180
84	92	(83)	84	85	8%	94	88	89	90
0	72	3	74	788	76	×	7,8	79	80
61	82	68	84	8B	86	6	68	86	70
54	5/2	(53)	54	5%	5%	54	58	69	60
4	42	43	44	45	46	4	48	49	50
(1)	32	3€	34	3≰	36	3	38	39	40
×	22	23	24	25	26	28	28	29	30
1	1/2	13	14	18	185	17	18	19	20
1	2	3	×	(5)	K	(7)	X	×	110

12.

Ashraf forgot to write 5

The correct answer is: 2,3,5,7 and 11

13.

The numbers are: 47,53,59 and 61

14.

The numbers are: 6,8,9,10,12,14, 15,16,18,20,21 and 22

Answers of multiple choice questions

- 1. D
- 2. C
- 3. B

- 4. C
- 5. D
- 6. B

- 7. D
- 8. B
- 9. B

- **10.** A
- 11. A
- **12.** C

- **13.** C
- 14. B
- **15.** C

16. B

Exercise 26

1.

a. Factors of 16: 11, 2, 4, 8, 16 Factors of 20: 11, 2, 4, 5, 10, 20

- **b.** Factors of 18: 11, 2, 3, 6, 9, 18 Factors of 4: 11, 2, 4
- c. Factors of 20: 1, 2, 4, 5, 10, 20 Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30
- d. Factors of 17: 1,17
 Factors of 22: 1,2,11,22
- e. Factors of 21: 1,3,7,21 Factors of 35: 1,5,7,35
- f. Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36 Factors of 42: 1, 2, 3, 6, 7, 14, 21, 42
- 2.
- a. 1,2,4
- **b**. 1,5
- c. 1,17
- d. 1,2,3,6
- e. 1,5
- f. 1,2,11,22

3.

a. Factors of 4:1,2,4

Factors of 6:1,2,3,6

Common factors: 1,2

GCF:2

b. Factors of 10:1,2,5,10

Factors of 30:1,2,3,5,6,10,15,30

Common factors: 1,2,5,10

GCF:10

c. Factors of 12:1,2,3,4,6,12

Factors of 18:1,2,3,6,9,18

Answers

Common factors:1,2,3,6

d. Factors of 6 are:1,2,3,6
Factors of 12 are:1,2,3,4,6,12
Common factors:1,2,3,6
GCF:6

e. Factors of 10:1,2,5,10
Factors of 15:1,3,5,15
Common factors:1,5
GCF:5

4.

a. Common factors:1,3,5,15 GCF:15

b. Common factors: 1,2,3,6 GCF: 6

c. Common factors:1,2,5,10 GCF:10

d. Common factors: 1,2,5,10 GCF: 10

e. Common factors : 1 , 2 GCF : 2

f. Common factors:1,5
GCF:5

g. Common factors:1,2,4,8
GCF:8

h. Common factors: 1,11 GCF: 11 i. Common factors: 1,2,4GCF: 4

j. Common factors:1,2,3,6 GCF:6

k. Common factors:1,2,3,6 GCF:6

L. Common factors:1,3 GCF:3

5.

a. Factors of 21:1,3,7,21Factors of 14:1,2,7,14Common factors:1,7

GCF:7

The greatest number of groups is 7 groups of 3 pencils and 2 erasers in each group

b. Factors of 40:1,2,4,5,8,10,20,40

Factors of 32:1,2,4,8,16,32

Common factors: 1,2,4,8

GCF:8

The greatest number of teams is 8 teams of 5 girls and 4 boys in each team

c. Factors of 36:1,2,3,4,6,9,12,18,36
Factors of 27:1,3,9,27
Common factors:1,3,9
GCF:9

The greatest number of groups is 9 groups of 4 girls and 3 boys in each group

d. Factors of 7:1,7

Factors of 14:1,2,7,14

Common factors: 1,7

GCF:7

The greatest number of flower arrangements is 7 arrangements of 1 rose and 2 daisies in each arrangement

e. Factors of 60:1,2,3,4,5,6,10, 12,15,20,30,60

Factors of 24:1,2,3,4,6,8,12,24

Common factors: 1, 2, 3, 4, 6, 12

GCF: 12

The greatest number of groups is 12 groups of 5 blue marbles and 2 red marbles in each group

f. Factors of 24:1,2,3,4,6,8,12,24 Factors of 36:1,2,3,4,6,9,12,

18,36

Common factors: 1,2,3,4,6,12

GCF:12

The greatest number of packs is 12 of 2 apples and 3 bags of candy in each pack

6.

Factors of 15:1,3,5,15

Factors of 18:1,2,3,6,9,18

Factors of 21:1,3,7,21

Common factors:1,3

GCF:3

Answers of multiple choice questions

1. C

2. A

3. B

4. D

5. A,B

6. C

7. C

8. C

9. C

Exercise 27

1.

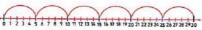
a.



The multiples of 2 are:

0,2,4,6,8,10,12,14,16,18, 20,22,24,26,28,30,32,34,...

b.



The multiples of 5 are:

0,5,10,15,20,25,30,35,...

2.

a.

					-		30		
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The multiples of 9 are:

9,18,27,36,45,54,63,72,81,90

b.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

The multiples of 10 are:

10,20,30,40,50,60,70,80,90,100

3.

a. 12,6,24,18 b.6,21,15,36

c. 8,16,24,32 d. 30

e. 31,16

4.

a. 7,14,21,28,35 [Answers may vary]

b. 8,16,24,32,40 (Answers may vary)

c. 0,3,6,9,12,15,18

d. 0,5,10,15,20,25,30

e. 0,9,18,27,36,45,54

5.

a. 20

b. 32

c. 30

d. 90

e. 18

f. 33

g. 45 **h.** 7

- 15

i. 18

6.

a. The multiples of 2 are:

0,2,4,6,8,10,12,14,16,18,20

The multiples of 3 are:

0,3,6,9,12,15,18

The common multiples are:

0,6,12,18

b. The multiples of 5 are:

0,5,10,15,20,25,30

The multiples of 4 are:

0,4,8,12,16,20,24,28

The common multiples are: 0,20

7.

- a. 8
- b. 21
- c. 18,36

- d. 24,48
- e. 35,70
- f. 28,56

[Answers may vary]

8.

Nagwa will visit her grandparents on: May 4, 8, 12, 16, 20, 24 and 28

The number of visits is: 7 times

9.



Tahani will walk 2 km

10.

- a. 30,60
- b. 60,120

(Answers may vary)

Answers of multiple choice questions

- **1.** A
- 2. B
- 3. B

- 4. C
- 5. A
- 6. A

- **7.** D
- 8. A
- 9. D

- 10. A
- 11. D
- 12. B,D

Exercise 28

1.

- **a.** 5 , 10 , 15 (Answers may vary)
- **b**. 6 , 12 , 18 (Answers may vary)
- c. 2,3,10 (Answers may vary)
- **d**. 27

- e. 36,4,9,4,9,36
- f. 21,21,3,7

2.

- a. yes
- b. yes
- c. yes

- d. yes
- e. no
- f. no

- g. yes
- h. no
- i. a factor of 25 j. a multiple of 8
- k. a factor of 9 l. 7

3.

- a. 3 is a factor of 6
 - 6 is a factor of 12
 - 12 is a multiple of 3

[Answers may vary]

- **b.** 8 is a multiple of 4
 - 16 is a multiple of 8
 - 4 is factor of 24

[Answers may vary]

- c. $2 \times 2 = 4, 3 \times 4 = 12$
 - , then all numbers are factors of 12
 - 4 is a multiple of 2
 - 12 is a multiple of 3

[Answers may vary]

4.

- a. 45 (Answers may vary)
- **b.** 16
- c. 12 (Answers may vary)
- d. 28

5.

Multiples of 4:12,16

Factors of 24:1,2,3,4,6,8,12,24

The number is: 12

Answers of multiple choice questions

1. B

7. A

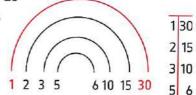
- 2. A 5.
- 3. A

D

- 4. C
- 8. В

C

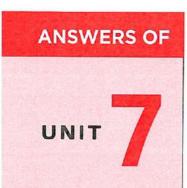
- 6. 9. C
- Unit 6 Assessment 1. 1. A 2. C 3. C 4. D 5. A 6. C 7. B 2. 1, 1 2. 0 3. 2 4. 2 5. 5 6. 3 7. 7 8. 6 3. 1. A 2. D 3. C 4. B 5. D 6. B 7. C
- 4.
- 1. 28
- 2.



Factors of 30:1, 2, 3, 5, 6, 10, 15, 30

- 3. Multiples of 8:0,8,16,24,32,40 Multiples of 12:0,12,24,36 Common multiples: 0,24
- 4. Factors of 24:1,2,3,4,6,8,12,24 Factors of 40:1,2,4,5,8,10,20,40 Common factors: 1,2,4,8

GCF:8

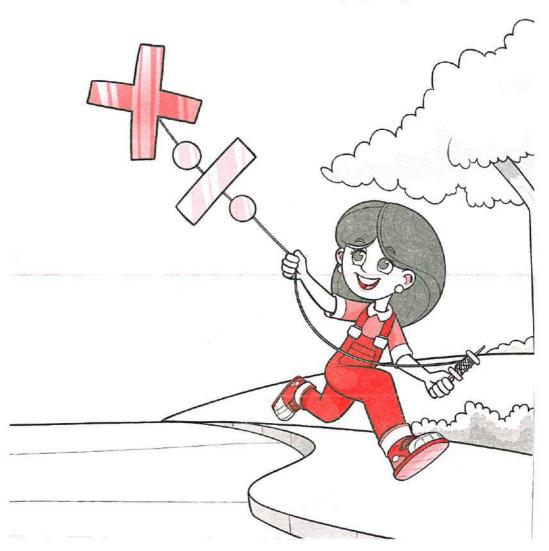


Multiplication and Division : Computation and Relationships

▶ Concept 1 : Multiplying by 1-Digit and

2-Digit Factors

▶ Concept 2 : Dividing by 1-Digit Divisors



Concept 1

Multiplying by 1-Digit and 2-Digit Factors

Exercise 29





 $17 \times 4 = 68$

b.

Tens	Ones
6	3

6 tens

3 ones

$$21 \times 3 = 63$$

Tens	Ones
7	0

7 tens

2.

a. 32 = 30 + 2

30 2 $7 \times 30 = 210$ $7 \times 2 = 14$

So
$$,7 \times 32 = 210 + 14 = 224$$

b. 88 = 80 + 8

80

8

So
$$,88 \times 6 = 480 + 48 = 528$$

c.
$$91 = 90 + 1$$

90

d.
$$35 = 30 + 5$$

30

5

So
$$35 \times 7 = 210 + 35 = 245$$

e.
$$249 = 200 + 40 + 9$$

200

9

3

3

$$\begin{array}{c|ccccc}
200 & 40 & 9 \\
\hline
5 \times 200 & 5 \times 40 & 5 \times 9 \\
= 1,000 & = 200 & = 45
\end{array}$$

So
$$,249 \times 5 = 1,000 + 200 + 45$$

= 1,245

$$f. 483 = 400 + 80 + 3$$

400

80

_ [5 × 400	5×80	5×3
5	= 2,000	= 400	= 15

So
$$5 \times 483 = 2,000 + 400 + 15$$

= 2,415

$$q.723 = 700 + 20 + 3$$

7

700

20

7×700	7×20	7×3
= 4,900	= 140	= 21

So
$$.7 \times 723 = 4,900 + 140 + 21$$

= 5,061

h.
$$530 = 500 + 30$$

$$500 30$$

$$7 \times 500 7 \times 30$$

$$= 3,500 = 210$$

So
$$530 \times 7 = 3,500 + 210 = 3,710$$

i.
$$4,734 = 4,000 + 700 + 30 + 4$$

 $4,000$ 700 30 4
 $5 = 4,000$ 5×700 5×30 5×4
 $= 20,000$ $= 3,500$ $= 150$ $= 20$

j. 2,391 = 2,000 + 300 + 90 + 1

3.

a.
$$8 \times [30 + 5] = [8 \times 30] + [8 \times 5]$$

= $240 + 40 = 280$

b.
$$7 \times [60 + 8] = [7 \times 60] + [7 \times 8]$$

= $420 + 56 = 476$

c.
$$2 \times [700 + 20 + 4] = [2 \times 700]$$

 $+ [2 \times 20] + [2 \times 4]$
 $= 1,400 + 40 + 8$
 $= 1,448$

d.
$$3 \times [600 + 80 + 4] = [3 \times 600]$$

+ $[3 \times 80] + [3 \times 4]$
= $1,800 + 240 + 12$
= $2,052$

e.
$$5 \times [100 + 30 + 5] = [5 \times 100]$$

+ $[5 \times 30] + [5 \times 5]$
= $500 + 150 + 25$
= 675

f.
$$8 \times [200 + 10 + 4] = [8 \times 200]$$

+ $[8 \times 10] + [8 \times 4]$
= 1,600 + 80 + 32
= 1,712

g.
$$3 \times (1,000 + 400 + 70 + 6)$$

= $(3 \times 1,000) + (3 \times 400) + (3 \times 70)$
+ $(3 \times 6) = 3,000 + 1,200 + 210 + 18$
= 4,428

h.
$$9 \times [4,000 + 500 + 20 + 3]$$

= $[9 \times 4,000] + [9 \times 500] + [9 \times 20]$
+ $[9 \times 3] = 36,000 + 4,500 + 180$
+ $27 = 40,707$

i.
$$4 \times [9,000 + 30 + 5]$$

= $[4 \times 9,000] + [4 \times 30] + [4 \times 5]$
= $36,000 + 120 + 20 = 36,140$

Answers

4.

- a. 15
- 200 1,000
- 40 6 200 30

8

c. 17

b. 1,230

- d. 60
- e. 100,30
- f. 7,000,40
- g. 1,000,800,5
- h. 592

50

i. 6

5.

- 58 × 9

- 58 = 50 + 8
- 50×9 8 × 9 =450= 72
- So $58 \times 9 = 450 + 72 = 522 \text{ km}$

6.

- a. The money which she paid $= 13 \times 6 = 78 \text{ L.E.}$
- b. Number of candy pieces $= 15 \times 9 = 135$ candy pieces
- c. $6 \times 145 = 6 \times [100 + 40 + 5]$ $= [6 \times 100] + [6 \times 40] + [6 \times 5]$ = 600 + 240 + 30= 870 pounds
- d. $22 \times 5 = [20 + 2] \times 5$ $= (20 \times 5) + (2 \times 5)$ = 100 + 10= 110 passengers
- **e.** $1,280 \times 3 = [1,000 + 200 + 80] \times 3$ $= (1,000 \times 3) + (200 \times 3)$ $+[80 \times 3]$ = 3,000 + 600 + 240= 3,840 centimeters

7.

The student decomposed 36 as 3 + 6 and that is wrong

36 decomposed as 30 + 6

30	
20	
	20

6

So $36 \times 8 = 240 + 48 = 288$

Answers of multiple choice questions

- 1. A
- 2. A
- 3. D

- 4. C
- 5. B 8. C
- 6. C 9. A

- 7. C 10. C
- 11. D
- 12. D

13. B

Exercise 30

1.

a. 28

- b.
- 239

- 210 $[30 \times 7]$
- $[9 \times 7]$ + 63
 - 1,673

d.

12,615

2.

×

67 8

b. 29

d.

•		678	
	×	6	
		3,600	(6 × 600)
	+	420	[6 × 70]
	+	48	(6×8)
		4,068	500

e.

	×	4	
		16	$[4 \times 4]$
	+	320	$[4 \times 80]$
	+	800	$[4 \times 200]$
-		1136	

284

f.

g.

h.

18,924

16,000

3.

② 27 30 b. a. 7 3 × × 210 81

 $[4 \times 4,000]$

①④ 126 ① 123 d. c. 7 × ×

492 882 ©30 f. 204 e. 5 2 × X 3,150 408

g.

h. 2 4 1,424 2,780

① 2,213 i. 4 3 × 8,852 7,350

4. **Estimate** Answer a. 20 4 17 6 × 6 × 120

102

b. Estimate Answer 30 32 × 3 3 × 90 96

c. Estimate Answer 130 134 × × 2 2 260 268

d. Estimate Answer 800 12 758 × 3 3 2,400 2,274

e. Estimate Answer 1,300 1,349 2 × × 2 2,600 2,698

f. Estimate Answer 1 1 2 2,327 2,000 × × 9,308 8,000

5.

Student 2 solved the problem correctly , student 1 error was no regrouping 1ten, while student 3 error was regrouping 1 ten with hundreds.

6.

- a. Number of candy pieces $= 15 \times 9 = 135$ candy pieces
- b. The maximum number of passengers $= 22 \times 5 = 110$ passengers
- c. The number of books = 35×5 = 175 books
- d. He paid = $85 \times 4 = 340$ pounds
- e. They won = $150 \times 6 = 900$ pounds
- f. Mohamed paid = 5×145 = 725 pounds
- g. They won = $150 \times 5 = 750$ pounds
- **h.** The mass = $124 \times 5 = 620 \text{ kg}$
- i. Number of toys = 4.256×3 = 12,768 toys

7.

8, 8, because $3 \times 8 = 24$ and its the only digit multiplied by 3 gives a number its ones digit is 4

Answers of multiple choice questions

- 1. B 4. C
- В
- 3. B
- 6. D

- 7. C
- 8. C
- 9. C

10. C

Exercise 31

- 1.
- a. 1,400
- **b.** 1,500
- c. 1,600

- d. 3,000
- e. 1,600
- f. 1,800

g. 4,900

i. 140

- h. 6.300
- i. 8,100 l. 3,200

- m. 4,500
- k. 1,200 n. 3,500
- o. 420

- p. 660
- q. 1,540
- r. 15

- s. 12
- t. 50
- u. 3

2.

a. Problem: 40×62

Area model:

2

 $40 \times 2 = 80$

Numbers and symbols: 2,480

b. Problem: 70 × 55

Area model:

50

5

70 $70 \times 50 = 3.500$

 $70 \times 5 = 350$

Numbers and symbols: 3,850

c. Problem: 54×30

Area model:

50

30 $30 \times 50 = 1.500$ $30 \times 4 = 120$

Numbers and symbols: 1,620

Answers

d. Problem: 40 × 78

Area model:

Numbers and symbols: 3,120

e. Problem: 44 × 20

Area model:

 $\begin{array}{c|ccccc}
 & 40 & 4 \\
20 & 20 \times 40 = 800 & 20 \times 4 = 80
\end{array}$

Numbers and symbols: 880

f. Problem: 15 × 30

Area model:

Numbers and symbols: 450

g. Problem: 10×40

Area model:

40 10 10 × 40 = 400

Numbers and symbols: 400

h. Problem: 72 × 40

Area model:

Numbers and symbols: 2,880

3.

a. The price = 26×10

 $26 \times 10 = 200 + 60 = 260$ pounds

- **b.** He paid = $20 \times 40 = 800$ pounds
- c. Khaled paid = 15×40

10 5 40 40 × 10 = 400 40 × 5 = 200

- $15 \times 40 = 400 + 200 = 600$ pounds d. They pay in all = 52×40

 $52 \times 40 = 2,000 + 80 = 2,080$ pounds

e. They need to pay = 38×30

30 8 $30 30 \times 30 = 900 30 \times 8 = 240$

 $38 \times 30 = 900 + 240 = 1,140$ pounds

4.

The answer is not reasonable $_{2}$ because the student multiplied $_{20} \times _{50} = 100$

While $20 \times 50 = 1,000$ So $22 \times 50 = 1,100$

Answers of multiple choice questions

- 1. B 2. B
 - B 3. C D 6. C
 - . B 5. D
 - 8. B 9. A 11. C 12. C
- **13.** C

Exercise 32

- 1.
- a. 3 R 2
- b. 3 R 1
- c. 6 R 2
- d. 6 R 3
- e. 2 R 2
- f. 2 R 2

2.

- a. 6 R 1
- b. 2 R 4
- c. 7 R 2
- d. 3 R 4
- e. 5 R 2
- f. 8 R 1
- g. 5 R 1
- h. 10 R 3
- i. 5 R 5

3.

- a. $20 \div 7 = 2R6$
- b. $(18 \div 9 = 2R0)$
- c. $31 \div 8 = 3 R7$
- $d.(72 \div 9 = 8 R O)$
- e. $51 \div 5 = 10 R1$
- $f.(22 \div 2 = 11 R 0)$
- $q.44 \div 6 = 7R2$
- $h.(24 \div 3 = 8 R O)$
- i. $65 \div 10 = 6R5$

4.

- a. 3
- b. 5
- c. 48
- d. the divisor
- e. 2
- g. 6
 - h. 3,4
- f. 3 i. 1,1

i. 5,1

5.

a. $15 \div 4 = 3 R 3$

Each friend will take 3 pies and 3 extra pies will be left.

b. $19 \div 9 = 2R1$

Each friend will take 2 biscuits and 1 biscuit is left over.

c. $48 \div 5 = 9R3$

10 boxes will be needed , 9 boxes will be filled with mugs and 1 more box for the 3 extra mugs.

d. 40 students will need one bus and the 20 extra students will need another bus. So , 2 buses are needed.

6.

 $[4 \times 9] + 3 = 36 + 3 = 39$

Ahmed had at the start 39 photos.

Answers of multiple choice questions

- 1. A
- 2. C
- 3. B

11. A

4. C

12. D

- 5. C
- 6. B 10. A
- 7. A 8. A

- 9. C **13.** B
- 14. B

Exercise 33

1.

- a.
- 3
- 30 300
- b. 6 60 600
- 3,000
- 6.000

- C.
 - 70

7

- 700
- 7,000

2.

Equation	Basic (Related) Fact	Quotient
600 ÷ 3	6 ÷ 3 = 2	200
150 ÷ 5	15 ÷ 5 = 3	30
1,200 ÷ 6	12 ÷ 6 = 2	200
200 ÷ 4	20÷4=5	50
700 ÷ 7	7÷7=1	100
6,400 ÷ 8	64 ÷ 8 = 8	800
4,500 ÷ 9	45 ÷ 9 = 5	500
270 ÷ 3	27÷3=9	90

3.

- a. 9
- b. 6
- c. 20

- d. 90
- e. 30
- f. 110

- g. 70
- h. 70
- i. 900

- j. 800
- k. 1,000
- L. 900

- m. 5,000
- n. 9,000
- o. 6,000

4.

- a. 3
- b. 6
- c. 7

- d. 7
- e. 90
- f. 2,800

- q. 2
- h. 8
- i. 9

- k. 24,000
- L. 9,000

- j. 81,000 m. 25,000
- n. 48,000
- o. 42,000

5.

a. $60 \div 3 = 20$

Each period will be 20 minutes long.

b. $120 \div 12 = 10$

There are 10 books in each class.

c. $180 \div 9 = 20$

It will take him 20 days.

d. $3,000 \div 5 = 600$

600 students donated.

e. $8,100 \div 90 = 90$

They will need 90 cars

So , they can not all take the same metro.

6.

 $450 \div 50 = 9$

There are 9 flowers in each row.

Answers of multiple choice questions

- 1. B
- 2. D
- 3. C
- 4. C

- 5. C
- 6. D
- 7. B
- 8. C

- 9. C
- 10. C 11. A
 - 12. C
- 14. B 13. A

Exercise 34

- 1.
- a. $64 \div 2$

$$\begin{array}{c|cccc}
2 \times 30 = 60 & 2 \times 2 = 4 \\
\hline
30 & 2
\end{array}$$

- 60 + 4 = 64 R O
- 30 + 2 = 32
- So $_{2}64 \div 2 = 32$

$$80 + 4 + 1 = 85$$

c. 217 ÷ 5

$$5 \boxed{5 \times 40 = 200 \quad 5 \times 3 = 15}$$
 R 2

$$200 + 15 + 2 = 217$$

So
$$,217 \div 5 = 43 R 2$$

d. $159 \div 3$

$$3 \times 50 = 150 \quad 3 \times 3 = 9$$

$$150 + 9 = 159 R 0$$

$$50 + 3 = 53$$

So
$$,159 \div 3 = 53$$

e. 636 ÷ 6

$$600 + 36 = 636 R O$$

$$100 + 6 = 106$$

So
$$.636 \div 6 = 106$$

f. 484 ÷ 8

So
$$,484 \div 8 = 60 R 4$$

2.

$$40 + 8 = 48 R O$$

$$10 + 2 = 12$$

So
$$_{9}48 \div 4 = 12 R O$$

$$3 \overline{\smash{)}3 \times 20 = 60} \overline{\smash{)}3 \times 2 = 6} R1$$

$$60 + 6 + 1 = 67$$

So
$$, 67 \div 3 = 22 R1$$

c. 246 ÷ 6

$$240 + 6 = 246 R D$$

$$40 + 1 = 41$$

So
$$,246 \div 6 = 41$$

d. 1,596 ÷ 3

$$500 + 30 + 2 = 532$$

So
$$,1,596 \div 3 = 532$$

3.

a.
$$63 \div 3$$

$$3 \overline{\smash{\big|}\ 3 \times 20 = 60 \ \big|\ 3 \times 1 = 3}$$

$$20 \qquad 1$$

$$60 + 3 = 63 R O$$

$$20 + 1 = 21$$

So, the share of each group is 21 muffines.

b. $89 \div 6$

6	6×10 = 60	6×4=24	R5
_	10	4	-

$$60 + 24 + 5 = 89$$

$$10 + 4R5 = 14R5$$

Each classroom will get 14 books and 5 books are left over.

c. $545 \div 5$

5	5 × 100 = 500	5×9=45
	100	9

500 + 45 = 545 R O

$$100 + 9 = 109$$

She worked 109 days.

 $d.92 \div 4$

4	$4 \times 20 = 80$	4 × 3 = 12
	20	3

80 + 12 = 92 R 0

20 + 3 = 23

Each friend will get 23 stickers.

- e. 492 ÷ 4
- $4 | 4 \times 100 = 400 | 4 \times 20 = 80 | 4 \times 3 = 12 |$ 100 400 + 80 + 12 = 492 R 0

100 + 20 + 3 = 123

123 cars could park in each lot.

Answers of multiple choice questions

- 1. D
- 2. B
- 3.

В

- 4. B 7. A
- 5. D 8. В

10. C

- 6. A
- 9. C

Exercise 35

1.

72 10 a. 40 32 8 32 0

 $72 \div 4 = 10 + 8 = 18$

> $897 \div 4 = 200 + 20 + 4 = 224$ and the remainder is 1

 $590 \div 5 = 100 + 10 + 8 = 118$

$$892 \div 4 = 200 + 20 + 3 = 223$$

 $925 \div 6 = 100 + 50 + 4 = 154$ and the remainder is 1

 $1,216 \div 3 = 400 + 5 = 405$ and the remainder is 1

2.

The dividend 68 is between 40 and 80 , then $40 \div 4 = 10$, $80 \div 4 = 20$, then the quotient is between 10 and 20

b. 457 ÷ 3

The dividend 457 is between 300 and 600 , then $300 \div 3 = 100$, $600 \div 3 = 200$

, then the quotient is between 100 and 200 $\,$

c. 87 ÷ 2

The dividend 87 is between 80 and 100, then $80 \div 2 = 40$, $100 \div 2 = 50$, then the quotient is between 40

, then the quotient is between 40 and 50

3.

a. The dividend 632 is between 400 and 800 , then $400 \div 8 = 50$, $800 \div 8 = 100$

The quotient is between 50 and 100

b. The dividend 312 is between 200 and 400 \div then 200 \div 4 = 50 \div 400 \div 4 = 100

The quotient is between 50 and 100

c. The dividend 762 is between 450 and 900 , then $450 \div 9 = 50$, $900 \div 9 = 100$

The quotient is between 50 and 100

Answers

d. The dividend 495 is between 300 and 600, then $300 \div 6 = 50$, $600 \div 6 = 100$

The quotient is between 50 and 100

e. The dividend 536 is between 400 and 800 , then $400 \div 8 = 50$, $800 \div 8 = 100$

The quotient is between 50 and 100

- f. The dividend 3,748 is between 2,000 and 4,000 \cdot then 2,000 \div 2 = 1,000 \cdot 4,000 \div 2 = 2,000 The quotient is between 1,000 and 2,000
- g. The dividend 4,681 is between 3,000 and 6,000 \div then 3,000 \div 3 = 1,000 \div 6,000 \div 3 = 2,000 The quotient is between 1,000 and 2,000
- h. The dividend 8,642 is between 5,000 and 10,000 \div then 5,000 \div 5 = 1,000 \div 10,000 \div 5 = 2,000 The quotient is between 1,000 and 2,000

b.

4.

a.		18	
	3	54	
	-	3	
		24	
	-	24	
		0	

c.		11 R 3	d.		13 R 2
	5	58		3	41
	_	5		-	3
		08			11
	_	5		_	9
		3			2

5.

 $_{2}$ then $454 \div 3 = 151 R1$

, then $192 \div 6 = 32$

389

$\frac{1}{2}$ then $778 \div 2 = 389$

d.

 $, then 912 \div 3 = 304$

e.

, then
$$512 \div 8 = 64$$

• then
$$336 \div 8 = 42$$

368

0

g.

3

$, then 368 \div 3 = 122 R 2$

Answers

$$_{2}$$
 then 4,858 \div 4 = 1,214 R 2

$$\frac{1}{2}$$
, then 3,650 ÷ 5 = 730

• then
$$1,500 \div 5 = 300$$

6.		012
The share of each one	7	84
= 84 ÷ 7	-	17
= 12 stickers		14
	-	14
		0

7.		125	
The number of students	5	625	
in each floor		5	
		125	
$= 625 \div 5$	-	10	
= 125 students		25	
	_	25	
		0	-

8.		206
He covers in one hour	4	824
= 824 ÷ 4	-	8
= 206 meters		024
	35000	24
		0

10.

The total =
$$172 + 8 = 180$$

Number of microbuses

20

0

0844

2,532

13

12

12

24

11. First strategy Second strategy 112 7 784 100 7 784 700 7

then
$$784 \div 7 = 100 \div 10 + 2 = 112$$

12.

0

13. 59

Answers of multiple choice questions

9. D

Exercise 36

1.

a.
$$288 \div 6 = 48$$

b.
$$300 \div 4 = 75$$

c.
$$1,296 \div 8 = 162$$

c.
$$1,296 \div 8 = 162$$
 d. $5,535 \div 9 = 615$

2.

a.
$$318 \div 6 = 53$$

b.
$$1,869 \div 3 = 623$$

c.
$$1,300 \div 4 = 325$$
 d. $2,525 \div 5 = 505$

e.
$$42 \times 7 = 294$$

$$294 \div 7 = 42$$

$$837 \div 9 = 93$$

g.
$$173 \times 6 = 1,038$$

 $1,038 \div 6 = 173$

$$2,792 \div 8 = 349$$

3.

3

23

278

834

Answers

The quotient is

Solution: 69 R1

562 The quotient is 56 between 50 and 100 Solution: 70 R 2 02 0

d. 1,266 ÷ 6 0211 The quotient is 1,266 between 200 and 300 _ 12 Solution: 211 06 6

e. 1,429 ÷ 7 0204 The quotient is 1,429 between 200 and 300 -14 Solution: 204 R1 02 0 29 28

f. 4,590 ÷ 3

069

346

2

06

6

0

1

5

The quotient is between 1,000 and 2,000 Solution: 1,530

1,530 -4,590 3 15

4.

a.
$$039$$
4 156
- 12
36
- 36
0

then $159 \div 4 = 39$

b. 073 3 219

• then $219 \div 3 = 73$

c.
$$05$$
5 27
- 25
2 then $27 \div 5 = 5 R 2$

42

04

$$_{2}$$
 then 1,545 \div 5 = 309

00

$$\Rightarrow$$
 then 2,704 ÷ 3 = 901 R 1

$$_{2}$$
 then 6,524 \div 4 = 1,631

h.

$_{2}$ then 3,017 \div 3 = 1,005 R 2

, then
$$534 \div 6 = 89$$

Answers of multiple choice questions

C

C

- 1. В
- 2.
- 3. C

- 4. C
- 5. A
- 6. C 9.

D

7. Α 8. 2.

4. 1. 75

5	7,425	1,000
_	5,000	
	2,425	400
-	2,000	
	425	80
_	400	
	25	5
-	25	

, then $7,425 \div 5 = 1,000 + 400 + 80 + 5$ = 1,485

0

- 12 1,270 3. The length of 4 buses $= 4 \times 1,270$ 4 × = 5,080 centimeters 5,080
- 4. He paid = $87 \times 4 = 348$ pounds

Unit 7 Assessment

- 1.
- 1. B
- 2. C 5. C
- 3. D 6. A

- 4. C
- 7. C
- 2.
- 1. 300,70,2
- 2. 4,000
- 3. 6,2,166,361
- 4.90

5. 653

6. 641

7. 123

- 3.
- 1. A
- 2. C
- 3. A

- 4. A 7. C
- 5. D
- 6. B

ANSWERS OF

8 TINU

Order of Operations

▶ Concept 1 :

Order of Operations



Exercise 37

1.

- a. Add, multiply
- b. Correct
- c. Correct
- d. Divide , subtract
- e. Correct
- f. Subtract , divide , add

2.

- a. 26 + 50 = 76
- b. 3+4=7
- c. 4-2=2
- d.30 12 = 18
- e. 200 160 = 40 f. 16 + 13 = 29
- q.8+4=12
- h. $24 \div 3 = 8$
- i. $12 \times 4 = 48$

3.

- a. 24+6+2=30+2=32
- **b.** 73 60 + 5 = 13 + 5 = 18
- c. 4+4+50=8+50=58
- d. 89 + 2 12 = 91 12 = 79
- e. $2+3\times5=2+15=17$
- f. $24 \div 6 2 = 4 2 = 2$
- q. $24 \div 3 2 = 8 2 = 6$
- **h.** $7 + 12 \times 10 = 7 + 120 = 127$
- i. 25 15 + 2 = 10 + 2 = 12
- i. 10 + 80 20 = 90 20 = 70

4.	8	11
•	15 ÷ 5 + 4 + 1	49 – 7 × 6 + 4
3	36 ÷ 9 + 4	80 ÷ 10 + 6 – 3
1	$2 - 72 \div 12 + 2$	
	16	28
1	5-7+2+6	24-8÷4+6
9	$99 - 10 \times 9 + 7$	8 × 2 + 24 – 12
_	32	Other
8	3×3+6+2	2+4×6
		48 ÷ 4 + 9
		7 + 70 ÷ 10 – 2
		24 × 36 ÷ 6 + 2
		$40 - 7 \times 5 + 2$

5.

- a. 24 4 = 20
- **b.** 100 80 = 20
- c.(80-50=30)
- d. 20

6.

The first problem has no parentheses So, we divide, then add the second problem has parentheses So, we add, then divide

- $8+6 \div 2 = 8+3 = 11$
 - $,[8+6] \div 2 = 14 \div 2 = 7$

$$74 - 61 + 8 \times 5 = 74 - 61 + 40$$

= 13 + 40 = 53

Sarah is correct

Saleem should follow the order multiply, subtract, add

8.

- a. $320.5 \times 67 15$
- **b.** $614,568+78-8\times4$

9.

- a. The share of each friend
 - $= [246 25] \div 6 = 221 \div 6$
 - = 36 stamps

and the remainder is 5 stamps

- **b.** She walked = $14 \times 14 + 56$
 - = 196 + 56
 - = 252 kilometers
- c. Ashraf takes = $(27 + 12) \times 5$
 - $= 39 \times 5 = 195 \text{ minutes}$
- d. The microbuses needed
 - $= [172 + 8] \div 9 = 180 \div 9$
 - = 20 microbuses
- e. Number of muffins
 - $= (198 17) \div 6 = 181 \div 6$
 - = 30 muffins
 - and 1 berry is remainder

10.

Write by yourself.

Answers of multiple choice questions

- 1. A
- 2. A
- 3. D
- 4. A 8. C

- 5. C
- 6. D
- 7. B
- 9. A
- 10. A 11. C
- 12. C
- 13. C 14. A

Unit 8 Assessment

1.

- 1. B
- 2. C
- 3. C

- 4. B
- 5. B
- 6. B

7. B

2.

- 1. 22
- 2. 9 5. 1
- 3, 23 6. 7

- 4. 5 7. 2
- 8, 20

5. B

- 3.
- 2. B
- 3. A 6. C

4. A 7. B

1. B

- 1. a. 11 + 10 1 = 21 1 = 20
 - b. 40 + 25 = 65
- 2. a. $6+20 \div 5 = 6+4=10$
 - b. 3+4=7
- 3. She walked = $5 \times 7 \times 2 + 60$
 - $= 35 \times 2 + 60$
 - = 70 + 60 = 130 km
- 4. Edward spends = $[25 + 15] \times 5$
 - $=40 \times 5$
 - = 200 minutes





Answers of

Cumulative Assessments

Unit 1

Cumulative Assessment

1. a. D

c. C

b. D d. B

2. a. 0

- **b.** 10,000
- c. Ten Millions
- d. 58
- e. 3,400,371,600
- f. 17,000,000,017
- 3. a. 5
- b. 9
- c. 8

- d. 6
- e. 2
- f. 0

Cumulative Assessment

b. C

d. A

- a. B
 - a. 34,905,421 **b.** 700,000,000
 - c. 5,000,000 + 600,000 + 10,000 +4.000 + 3

c. C

d. 450,000

3.

1.

2.

Composed: 618,204,375

Decomposed: $[6 \times 100,000,000]$

- $+(1 \times 10.000.000) + (8 \times 1.000.000)$
- $+ (2 \times 100,000) + (4 \times 1,000)$
- $+ (3 \times 100) + (7 \times 10) + (5 \times 1)$

M	illio	ns	The	ousa	nds	-	Ones	5
Н	Т	0	Н	Т	0	Н	Т	0
6	1	8	2	0	4	3	7	5

Cumulative Assessment

3

d. <

- 1. a. < b. > c. <
- 2. b. D d. A a. A c. C e. C f. B
- 3. The number may be 35,782
- The number may be 735,864,251 4.
- 5. The number may be 6,006,009,800

Cumulative Assessment

d. B

- 1. b. D a. B c. B
- 2. a. 5,007,000
 - **b.** 6,402,000,028
 - c. 400,000,000
 - d. 5,000,000
- 3. a. 525,000,508 ,5,003,000,053 , 5,004,006,009 , 5,020,005,018
 - b. 9 millions and 3 hundred thousands > 5 millions > 770.322 , 500 thousands.

Cumulative Assessment

a. 570,000 1.

b. 13,000

13,000 12,983 12,950 12,900

- 2. a. 4,900
- b. 8,000,000
- c. 100,000,000 d. 54,320,000

- 3. a. A
- b. B
- c. A

- d. B
- e. C
- f. C
- 4. The numbers may be:
 - 784,531
- 784,521
- 784,496
- 784,476
- 784,450
- 5. [7 × 1,000,000,000]
 - $+[4 \times 100,000,000]$
 - $+[5 \times 10,000,000]$
 - $+[3 \times 1,000,000] + [3 \times 100,000]$
 - $+ [6 \times 10,000] + [1 \times 1,000]$
 - $+(2 \times 100) + (1 \times 10) + (4 \times 1)$

Unit 2

Cumulative Assessment

- 1. a. A b. A
 - d. B c. C
- 2. a. 35
- **b**. 134
- c. 9.463

- d. 0
- e. Hundred Thousands

- 3.
- a. 17 + 8 + 3 = 17 + 3 + 8

[commutative property]

= [17 + 3] + 8

[associative property]

$$= 20 + 8 = 28$$

- **b.** 35 + 14 + 15 + 36
 - = 35 + 15 + 14 + 36

[commutative property]

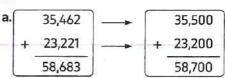
= [35 + 15] + [14 + 36]

[associative property]

- =50+50=100
- a. 773,330 4.
- b. 770,000

Cumulative Assessment

- 1. a. A
- b. B
- c. B
- d. C



- b. 2,942 2.900 350 400 3,292 3,300
- C. 94,641 94,600 2,961 3,000 97,602 97,600

142 + 55 + 18 + 45 = 142 + 18 + 55 + 45 [commutative property]

[associative property]

$$= 160 + 100 = 260$$

4.

Estimate:

3,573 + 4,230 = 3,600 + 4,200 = 7,800

Exact: 3,573 + 4,230 = 7,803

5. The order is:

- Three milliard, five hundred million, fourteen.
- 3 milliards ,50 millions ,40
- 3,000,000,000 + 20,000,000 + 400
- 3,000,786,562

Cumulative Assessment

8

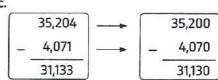
1.

a.

$$\begin{array}{c|cccc}
 & 7,356 \\
 & 2,547 \\
\hline
 & 4,809
\end{array}
\longrightarrow
\begin{array}{c}
 & 7,360 \\
 & 2,550 \\
\hline
 & 4,810
\end{array}$$

b.

C.



- 2. a. 355
- b. 4,065
- c. 1,564

d. 73,911

d. C

- e. 6,389
- f. 27,532

- 3. a. B
- b. Ce. D
- c. A

4.

The difference = 3,267 – 2,879 = 388 toys

Cumulative Assessment

9

- **1. a.** 873
- b. 3,467,219
- c. 67,125
- d. Ten Thousands

2.

- a. C
- b. B
- c.B
- d. C

3.

a. Bar model :

Solution: s = 74,252 + 23,402 = 97,654

b. Bar model :

21,253		
b	4,261	

Solution: b = 21,253 - 4,261 = 16,992

c. Barmodel:



Solution: m = 47,261 - 31,422 = 15,839 d. Bar model:

52,428		
45,261	k	

Solution: k = 52,428 - 45,261 = 7,167

4.

Let the number of female be m

Solution: m = 74,319 - 32,425 = 41,894

5.

[associative property] = 740 + 170 = 910

Cumulative Assessment

10

1.

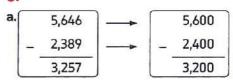
- a. 46,856
- b. 4,000,000,000
- c. 2,000,000,000 + 700,000,000 + 80,000,000 + 5,000,000 + 600,000 + 20,000 + 9,000 + 100 + 40 + 2
- **d.** (15+5)+7 [associative property] = 20+7=27
- e. 44,709
- f. 65

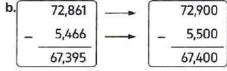
78

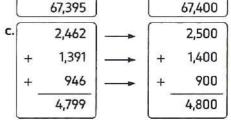
2.

- a. C b.
 - b. C
- c. B
- d. D

3.







4.

- Population of South Sinai and North Sinai = 111,835 + 450,528 = 562,363
- Population of Port Said more than them by = 782,180 – 562,363

- The library sold = 5,325 + 9,712 = 15,037 books
- The left = 20,000 15,037 = 4,963 books

Unit 3

Cumulative Assessment

11

- 1. a.7 , 83
- **b.** 7 , 486
- c. 25,423
- 2. a. 7,000
- **b**. 7,800,000
- **c**. 7,050
- **d.** 8 , 762
- **e.** 13
- f. 110

3. a. C

b. B

c. A

d. C

- e. C
- 4. a. 4,429
- b. 67,453
- c. 2,574

Cumulative Assessment

12

- 1. a.7,6
- **b**. 8 , 875
- c. 2,034,789
- d. 38,000
- e. 7,004
- f. 2,000,000

2. a. B

b. C

c. A

d. D

- e. C
- 3. a. 8 , 782
- b. 29 , 419
- c. 52,034
- 4. 21,000 g , 23,000 g , 25 kg , 2 ton
- 5. The car covers = $2 \times 8 = 16 \text{ km}$ = 16,000 m

Cumulative Assessment

13

- 1.
- a. 3 , 450
- **b**. 74 , 82
- c. 7,015
- d. 25
- e. 3 , 729
- a. B

b. C

c. A

d. B

- e. C
- Petrol was used
 - = 25 L ,400 mL 10 L ,230 mL
 - = 15 L , 170 mL
- 4. 18 + 35 + 82 + 15
 - = 18 + 82 + 35 + 15 (Commutative)
 - = [18 + 82] + [35 + 15] [Associative]
 - = 100 + 50 = 150
- 5. There are many numbers , for example :
 - 341,234
- 335,216
- 342,167
- 336,247

Cumulative Assessment

- **b.** 1:50
- 10 to 2
- c. 9:25

a. 544

- 25 past 9
- **d**. 7:10

1.

2.

- 10 past 7
 - b. 14 ,650 c. 200
- d. 25
- e. 7,23
- f. 35

g. 9,8

Answers

- 3. a. B
- b. D
- c. C

- d. D
- e. A

Cumulative Assessment

The length of the left cloth

 $= 5 \text{ m} \cdot 50 \text{ cm} - 2 \text{ m} \cdot 25 \text{ cm}$

43 kg, 450 g + 34 kg, 900 g

 $= (5-2) \text{ m} \cdot (50-25) \text{ cm}$

 $= 3 \, \text{m} \cdot 25 \, \text{cm}$

- 1. a. A
- b. C
- c. A

- d. B
- e. A

Cumulative Assessment

5.

- 1. a. 6:05
- b. 40

Unit 4

The ant will walk = 5×20

= 100 km = 100,000 m

c. 280

- d. 5.034
- e. 39, additive identity
- f. 350
- 2. a. C
- b. C
- c. A

 $= 22 \, \text{m}$

- d. C
- e. A

- = [43 + 34] kq + [450 + 900] q= 77 kg, 1,350 g = 78 kg, 350 g
- 4. a. 160
- **b.** 1.820
- c. 1,083

d. 780

The total =

- e. 120
- 5. a. 10:10 , 10 past 10 **b.** 11:15 , 15 past 11
 - **Cumulative Assessment**
- 1. a. D
- b. C
- c. D

- d. B
- e. A
- 2. a. 78,460
- b. 9 , 250
- c. 12
- d. 2,020
- 3. $25,000 \, \text{mL} = 25 \, \text{liters}$ The tank needed = 70 - 25= 45 liters
- 4. He will study in 6 days = 30×6 = 180 minutes = 3 hours

- 3. P = 7 + 4 + 7 + 4 = 22 mSecond formula: $P = [2 \times 7] + [2 \times 4] = 14 + 8$
 - b. First formula:

a. First formula:

$$P = 40 + 40 + 40 + 40$$

 $= 160 \, \text{mm}$

Second formula:

$$P = 40 \times 4 = 160 \text{ mm}$$

 $P = 2 \times (L + W) = 2 \times (42 + 28)$ $= 2 \times 70 = 140 \text{ mm}$

Cumulative Assessment

- 1. a. C
- b. D e. C
- c. B

a. 75,151 2.

d. A

- b. 21,380
- c. 3,003

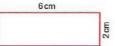
- d. 570
- e. 73
- f. 700

- 3. a. $A = 24 \text{ cm}^2$, P = 20 cm
 - **b.** $A = 2,500 \text{ m}^2$, P = 200 m
 - c. $A = 84 \text{ km}^2$,
- $P = 38 \, km$
- The answers may vary



 $P = 2 \times [3 + 4] = 2 \times 7 = 14 \text{ cm}$

b.



 $P = 2 \times [6 + 2] = 2 \times 8 = 16 \text{ cm}$

Cumulative Assessment

- a. 36 cm² 1.
- **b.** 5 cm
- c. 4 m

- d. 10:07
- e. 38,000
- 2. a. A
- b. B c. B
- d. A
- e. C
- a. 1:50 3. 10 to 2
 - b.3:30
- half past 3
- c. 5:40 d. 9:10
- 20 to 6 10 past 9
- P=20 cm , L=6 cm

$$W = (P \div 2) - L = (20 \div 2) - 6$$

$$= 10 - 6 = 4 \text{ cm}$$

$$A = L \times W = 6 \times 4 = 24 \text{ cm}^2$$

2,000 grams = 2 kilograms The number of days = $10 \div 2$ = 5 days

Cumulative Assessment

c. 7

- a. 44 1.
- **b**. 135
- d. 5,000,000 e. 7,5
- f. 0
- a. C 2.
 - c. B
- b. C d. D
- a. 457 3.
- b. 207
- The side length of the playground 4.
 - $= 20 \div 4 = 5 \text{ m}$

The area of the playground

 $= 5 \times 5 = 25 \,\mathrm{m}^2$

Unit 5

Cumulative Assessment

- a. B
- b. D d. A
- c. C e. D
- 2. a. 3
- b. 54,6
- c. 96
- d. $4 \times 10 = 40$
- e. 0
- a. $A = 36 \text{ cm}^2$, P = 24 cm3.
 - **b.** $A = 36 \text{ cm}^2$, P = 30 cm

4. a. 64 is 8 times the number 8b. 36 = 9 × 4

Cumulative Assessment

22

- a. Equation: n = 6 × 5
 Answer: n = 30
 - **b.** Equation: $40 = 5 \times a$ Answer: $a = 40 \div 5 = 8$
 - c. Equation: $70 = m \times 10$ Answer: $m = 70 \div 10 = 7$
- 2. a. n = 16 b. k = 49 ÷ 7 = 7
 - c. $b = 72 \div 9 = 8$
- 3. a. B b. A c. C d. D
- 4. a. 4 b. 36c. 5 d. Ten Thousands

Cumulative Assessment

23

- 1. a. 5
- **b**. 6,000
- c. 3,155

e. 3,000

- **d**. 0
- e. 65
- **f.** 18
- 2. a. D b. A c. D d. A
- 3. a. > b. < c. = d. =
- 4. $4 \times 9 = 9 \times 4 = 36$ [Ways may vary]

5. Hany paid = $4 \times 3,000$ = 12,000 pounds

Cumulative Assessment

24

- 1. a. $4 \times 9 = 36$
- **b.** $6 \times 10 = 60$
- c. $8 \times 7 = 56$
- d. $90 \times 3 = 270$
- **e.** $40 \times 5 = 200$
- f. $8 \times 60 = 480$
- 2. a. 27
- **b**. 7:45
- **c.** 180
- **d**. 8
- e. 8
- f. 5
- 3. a. $8 \times (3 \times 100) = (8 \times 3) \times 100$ = $24 \times 100 = 2.400$
 - b. $5 \times (7 \times 1,000) = (5 \times 7) \times 1,000$ = $35 \times 1,000$ = 35,000
- 4. Ayman has = $5 \times 8 \times 6$ = $[5 \times 8] \times 6 = 40 \times 6$ = 240 pencils
- 5. a. A b. B d. C e. D

Unit 6

Cumulative Assessment

- ssment 2
- 1. a. B
- b. A
- c. D

c. B

- d. C
- e. A

b. 2

- c. 76,000
- d. 80,000,000
- e. 8.008
- f. 78,9
- g. 4

3.

- a. The factors are: 1,2,4,8,16,32
- b. The factors are: 1,23
- c. The numbers are: 23, 29, 31, 37
- **d.** The numbers are: 51,52,54,55,56,57,58,60,62,63,64

Cumulative Assessment

26

1. a. 1,2,4

a. 2

b. 1, 2, 3, 6

c. 1

2.

- c. 40 ,7 ,280
- **b.** 2,400
- C. 40 77 72
- **d.** 5
- **e.** 3,300
 - a. A
- b. C
- c. D

- d. A
- e. C

4.

3.

- Factors of 48:1,2,3,4,6,8,12,16,24,48
- Factors of 40:1,2,4,5,8,10,20,40
- Common factors: 1,2,4,8
- GCF:8
- The greatest number of packs is 8 pack of 6 pens and 5 pencils in each pack

Cumulative Assessment

27

1. a. 0

- b. 2
- c. 50,341,143
- d. 5,302

- e. 2
- 2. a. D
- b. A
- c. C
- d. B
- 3. a. 0 , 3 , 6 , 9 , 12 , 15 , 18 , 21 , 24 , 27 , 30
 - b. 1,2,3,4,6,9,12,18,36
 - c. 10,20 (Answers may vary)
- 4. 5,10,15,20,25,30 He will go six times.

Cumulative Assessment

28

- 1. a. 5,15
 - b. 2,6,12 (Answers may vary)
 - c. 20
- **d**. 280
- e. 27

- 2. a. B
- b. C
- c. A

- d. B
- e. D
- **3.** a. 30
- b. 6 or 9

- a. 5 is a factor of 10
 - 10 is a multiple of 2
 - (Answers may vary)
- b. 12 is a multiple of 4
 - 30 is a multiple of 6
 - (Answers may vary)

Unit 7

Cumulative Assessment

- 1. a. 90,5
- b. 20 , 160
- c. 8
- d. 1.000,700,30
- e. 3,004,005,006
- 2. a. B
- b. A

- d. D
- e. C

- 3.
- a. 73 = 70 + 3
 - 70

3

- $5 \times 70 = 350$
- $5 \times 3 = 15$

c. A

- $5 \times 73 = 350 + 15 = 365$
- b. $61 \times 9 = [60 + 1] \times 9$
 - $= [60 \times 9] + [1 \times 9]$
 - = 540 + 9 = 549
- 4.

Mohamed has $= 7 \times 45$

$$= 7 \times [40 + 5]$$

$$= (7 \times 40) + (7 \times 5)$$

- = 280 + 35
- = 315 candies

Cumulative Assessment

30

- a. D
- b. B
- c. C

- d. D
- e. A

- 2. a. 50,000
- b. 36
- e. 7,000

b.

c. 14 f. 550

8

- 3.
- a.

×

78 9

d. 8,960

- 642 4 ×
- 72
 - 630
 - 702
- 160 + 2,400 +

2,568

- 4. a. 24
- b. 22
- 5. The mass of 7 boxes = 131×7
 - $= 917 \, kg$

Cumulative Assessment

- 1. a. B
- b. B
- c. D

- d. A
- e. B
- 2. a. 1,320
- b. 3,958
- c. commutative
- d. 96

e. 34

- f. 250
- 3. a. 4 m
- b. 7 cm

- 4.
- a. Dina paid = $25 \times 30 = 750$ pounds
- b. 37,661,37,908,38,042

[Answers may vary]

Cumulative Assessment

- a. 5
- b. Millions c. 6
- d. 1,23
- e. 6
- f. 7

f. C

- 2. a. C
- b. C e. C
- c. C
- d. A
- a. 5R4
- b. 7R6
- c. 9R4

- d. 9R1
- e. 6R3
- f. 9R0

4.

3.

He can give each son 21 pounds and the remainder is 1 pound.

Cumulative Assessment

- a. 200
- b. 1,000
- c. 6,000

d. 12,2

f. 11

g. 500

d. B

- h. 7,280
- a. A 2.
- b. D

e. 112

- e. A
- c. B f. C

3.

The number of tourists = $320 \div 8$ = 40 tourists

The length = $15 \div 3 = 5$ meters 4.

5.

a. Area = 40 m^2

Perimeter = 28 m

b. Area = 49 cm^2

Perimeter = 28 cm

Cumulative Assessment

- 1. a. A
- b. B
- d. B
- e. B
- a. Two milliard , three hundred 2. million, thirty thousand, three
 - **b**. 0

c. 7

c. D

- **d.** $7 \times 5 = 35$
- e. 3

3.

a. $84 \div 3$

3	$3 \times 20 = 60$	$3 \times 8 = 24$
	20	8

- 60 + 24 = 84 R O
- So $984 \div 3 = 20 + 8 = 28$
- b. 216 ÷ 6

- 180 + 36 = 216 R 0
- $50,216 \div 6 = 30 + 6 = 36$
- 4. a. 26
- b. 190
- c. 1,245
- d. 131

Cumulative Assessment

- 1. a. 162
- b. 167 , 6
- c. 98,80

- d. 0
- e. 21
- 2. a. C
- b. B
- c. A

- d. A
- e. D

a.
$$89 \div 3$$

So
$$99 \div 3 = 20 + 9R2 = 29R2$$

b. 628 ÷ 4

So
$$,628 \div 4 = 100 + 50 + 7 = 157$$

c. 2,374 ÷ 6

So
$$,2,374 \div 6 = 300 + 90 + 5 R 4$$

= 395 R 4

a.	835	+ 5 167
	5	835
		5
		33

b.
$$4,258 \div 7$$

	0 608	R2
7	4,258	
-	42	
	05	1
_	0	
	58	
_	56	
	2	1

	0740
9	6,660
_	63
	36
-	36
	0

Cumulative Assessment

- a. B
- b. C
- d. C
- e. C
- a. $1,686 \div 6 = 281$ b. $307 \cdot 1$ 2.
 - c. 92
- d. 300,60,2
- e. 641
- f. 300,000,000

36

c. A

- The share of each one = $358 \div 2$ 3. = 179 L.E.
- 4.
- a. $2,526 \div 6 = 421$
- **b.** $764 \div 2 = 382$
- c. $5,216 \div 8 = 652$
- **d.** $[2,312] \div [4] = [578]$

Unit 8

Cumulative Assessment

c. 145

f. 10

- a. 13 1.
- b. 29

- e. 219,353
 - b. 96
- 2. a. 6
- d. 1,960
- c. 13 e. 5,008,040

d. 900 R 2

- f. 4,400
- 3. a. C
- b. A
- c. B

- d. D
- e. A
- f. B
- The number of microbuses
 - $= (330 154) \div 8 = 176 \div 8$
 - = 22 microbuses

Answers of

Monthly Tests

Tests of October

Test 1

- . 1. D 2. D
- 1. 1. D 2. D 3. C 4. B 5. D
- **2. 1.** 60,000,000 **2.** 621 **3.** 7,007,314 **4.** 35 **5.** 740,000
- 3. a. The difference = 519,800 - 112,200 = 407,600 people
 - b. 12 + 30 + 28 + 20= 12 + 28 + 30 + 20[Commutative] = [12 + 28] + [30 + 20][Associative] = 40 + 50 = 90

Test

1. 1. 45,068 **2.** 3,137,619,088 **3.** 9,000 **4.** Millions

5. 6,000

- 2. 1. C 2. D 3. A 4. C 5. B
- 3. a.

Hours		Minutes
30	:	65,05
- 7	;	50
2	:	15

- The time of the game is 2 hours and 15 minutes.
- **b.** The number of ants in the two bridges = 142 + 165 = 307 ants

Test 3

- 1. 1. C 2. D 3. C 4. C 5. C
- 1. 84
 2. 6,150
 3. Millions
 4. 50,345,730
 5. 8
- 3. a. Sameh paid = 500,000 – 251,650 = 248,350 pounds
 - b. The order is: 4,273,653, 4,237,690,4,237,651,495,627

Tests of November

Test 1

- 1. 1. C 2. D 3. B 4. C 5. B
- 2. 1. 5×8=40 2. 3 3. 5 4. 2 5. 5
- 3. a. The total =

	kg	g
	3	400
+	5	217

3. B

- b. Factors of 40: 40 50 1,2,4,5,8 1 40 1 50
 - ,10 ,20 ,40 2 20 2 25 Factors of 50 : 4 10 5 10
 - 1,2,5,10 5 8
 - ,25,50

Common factors: 1,2,5,10

G.C.F:10

Test 2

- 1. 1. B
- 2. C
- 3. B

- 4. A
- **5.** C **2.** 16
- 2. 1. 5
 - 3. 1, 2, 5, 10
 - 4. 1,500
- 5. 2×L+2×W
- 3. a. The length of the border $= 30 \times 4 = 120$ cm
 - **b.** Factors of 18:1,2,3,6,9,18

Factors of 6:1,2,3,6

Common factors:1,2,3,6

G.C.F: 6

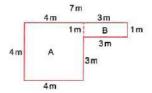
Test 3

- 1. 1. B 2. D
 - 4. D
- **5**. C
- **2.** 1. 8 **2.** 1,000
 - 3. 15
- 4.6
- 5. 40
- 3. a. $2 \times 3 \times 5 = 2 \times 5 \times 3$

$$= [2 \times 5] \times 3$$

$$=10 \times 3$$

b.



Area of the square A

$$= 4 \times 4 = 16 \text{ m}^2$$

Area of the rectangle B

$$= 3 \times 1 = 3 \,\mathrm{m}^2$$

Area of the complex figure

$$= 16 + 3 = 19 \text{ m}^2$$

Perimeter of the complex

figure =
$$7+1+3+3+4+4$$

= 22 m

Answers of

General Revision

Unit 1

1.

- 1. 164,000,000
- 2. 3,214,936
- 3, 409
- 4. 60,000,000
- 5. 60,000,000
- 6. 8,000,000
- 7. Millions
- 8. Millions
- 9. Millions
- 10. 400
- 11. 30,000
- 12. 7,000,000
- 13. 33.000
- 14. 1,035,689
- **15.** 3,008,433
- 16. Three milliard , five hundred one million, seven hundred two thousand, nine hundred three.
- **17**. 70,070,070
- 18. 8
- 19.503,270

2.

- 1. B
- 2. B
- 3. C
- 4. C 8. A

- 5. A 9. B
- 6. C 10. C
- 7. A 11. C
- 12. B

- 13. D
- 14. B
- 15. D
- 16. A **20**. B

- 17. A 21. C
- 18. A 22. C
- 19. C
- 23. A

3.

- 1. 9 millions , 5 millions and 7 hundred thousands, 900 thousands ,500,223
- 2. 179,462,490 (Answers may vary)

- 3. 7,534,786 , 8,092,561 , 8,650,336 , 9,208,111
- 4. 988,423 ,1,282,756 ,3,012,427 , 3,105,338
- **5.** 2.000.000.000 + 400.000.000 +40.000.000 +5.000.000 +200.000 +30,000 + 2,000 + 100 + 90 + 7
- 6. a.556,500
- b. 600,000
- 7. $[3 \times 1.000.000] + [1 \times 100.000]$ $+[6 \times 10,000] + [6 \times 1,000]$ $+[2 \times 100] + [5 \times 10] + 2$
- 8. a.5
- **b.**1
- c. 3

Unit 2

1.

- 1. 1,000
- 3. 7,000
- 5. 520
- 7. 6,885
- 9. 3.310
- 11. 10,901
- 13.854
- **15**. 5,242
- - 17. 35

- 2. 0
- 4. 1,000
- 6. 5,000
- 8. 88,223
- 10. 102
- 12. 2,000 14. 5,168
- 16. 6,848
- 18.48

2.

- 1. A
- 2. D 6. B

18. C

- 3. B
- 4. C

5. C 9. D

17. C

- 10. C
- 7. A 11. A
- 8. A 12. D

- 13. C
 - 14. B
- 15. C
- 16. C

- 1. Mohamed paid = 668,500 342,650 = 325.850 pounds
- 2. The number of ants = 142 + 165 = 307 ants
- 3. The remaining distance = 675 239 = 436 km
- **4.** The total = 1,653,465 + 3,312,447 = 4,965,912 people
- **5.** He paid = 7,250 + 4,000 = 11,250 L.E.
- 6. The difference = 517,901 112,211 = 405,690 people
- 7. G = 930 710 = 220
- 9. K = 349 226 = 123

Unit 3

1.

- 1. 35,086
- **2.** 30
- 3. 6,000
- 4. 9,000,000
- **5.** 4,300
- **6.** 5,005

7. 48

8. 2,000

9. 9

- **10**. 65
- 11. 35,086 13. 9
- **12**. 32,077 **14**. 10,000
- **15**. 260
- **16**. 845
- 17. 9,250
- **18**. 9

- 19. 5,275
- 20.8
- **21.** 3,258
- **22.** 10 : 07

23. 35

- **24.** 635
- 25. 900
- 26.35

2.

- 1. B
- 2. C
- **3**. C
- 4. C 8. B

- 5. C 9. D
- **6.** A
- **10**. C
- 7. A 11. D
- 12. C

- 13. D
- 14. D 18. D
- **15.** D **19.** D
- **16.** B **20.** C

- 17. C 21. C
 - C 22. A
- **23**. D
- 24. D

25. B

3.

- 1. 8 mm , 8 m , 8,000 cm , 8 km
- 2. Number of hours = 3 × 24 = 72 hours
- 3. Number of minutes = 8 × 60 = 480 minutes
- 4. Number of minutes = 5 × 30 = 150 minutes
- 5. The distance = $2 \times 10 = 20 \text{ km}$ = 20,000 m
- 6. It will end at 5:45 P.M.
- 7. It needed = 50 20 = 30 liters

Unit 4

1.

1. 21

2. 20

3. 20

Answers

5. 16

6. 7

7. 21

8. 24

9. 12

10. 20

- 12, 35
- 11. 32 13. $[L+W] \times 2$
- 14, 12
- 15. itself
- 16. 5 × 4

17, 36

- 18. 4
- 19. length
- 20. 9 cm²

2.

- 1. C
- 2. D
- 3. A
- 4. A

- 5. C 9. B
- 6. C 10. B

18. C

- 7. D 11. A
- 8. D 12. D

- 13. C
- 14. B 15. D
- 16. C

- 17. B
- 19. B

3.

- 1. The perimeter = $[7+4] \times 2 = 22$ meters
- 2. The area = $8 \times 8 = 64 \text{ cm}^2$
- 3. The area = $4 \times 4 = 16$ square meters
- 4. The perimeter = $2 \times (5 + 3) = 2 \times 8$ = 16 cm
- 5. The perimeter = $2 \times [16 + 14]$ $= 2 \times 30 = 60 \text{ cm}$
- 6. Area of the garden = $6 \times 6 = 36 \text{ m}^2$
- 7. $A = 84 \text{ cm}^2$
 - P = 46 cm
- 8. a. Perimeter = $2 \times 6 + 2 \times 4$ = 12 + 8 = 20 cm
 - **b.** Perimeter = $5 \times 4 = 20$ cm
- 9. a. Perimeter = $7 \times 4 = 28$ cm
 - **b.** Area = $7 \times 7 = 49 \text{ cm}^2$

Unit 5

- 1.
- 1. 3,500
- 2. 3

3. 6

- 4. 1,800
- 5. zero 7. 1,500
- 6. 70 pounds 8.7
- 9.600
- 10.3
- 11. 25
- 12. 45 × 12 14. 2,100

13. 4 15, 50

1. D

5. C

16. 9

- 2.
- 2. D

6. A

- 3. A 7. B
- 4. A 8. B

16. D

- 9. B 10. B
- 11. A
 - 12. D
- 14. C 13. A 17. B 18. B
- 15. A
 - 19. C 20. A
- 21. A 22. A
- 23. A
- 24. B 27. C 28. D

3.

25. D

1. The total = $5,000 \times 9$

26. C

- = 45,000 meters = 45 kilometers
- 2. Mariam paid = $4 \times 1,000$ =4,000 pounds
- 3. The price of all pens = 10×200 = 2.000 piasters
- 4. Ali travelled = $3.000 \times 8 = 24.000 \text{ m}$ $= 24 \,\mathrm{km}$
- 5. His brother ate $= 4 \times 3 = 12$ figs
- **6.** Hany gains = $30 \times 8 = 240$ L.E.

Unit 6

- 1.
- 1. 2

2. 2

3. 2

4. 7

5.1

6, 27

7. 2

8. 0

9. 3

- 10. 5 , 10 , 15
- 11. 6 or 12 (answer may vary)
- 12. 6

13. 2

14.8

- 15. 24
- 16, 10
- 17. 36,4,9
- 18.3,5
- 19, 21, 21

- 20.9
- 21, 1, 2, 3, 4, 6 and 12

2. C

- 12 1 12
- 2634

2.

1. A

- 3. B 7. C
 - 4. D
- 5. C 6. C

8. B

- 9. C 10. B
- 11. B
- 12. C

- 13. C 14. C
- 15. C
- 16. D

- 17. A 18. A
- 19. D
 - 20. D

21. B

- 23. D 24. A
- 25. C 26. D

3.

1. Factors of 25 are 1, 5, 25 Factors of 35 are 1,5,7,35

22. A

- Common factors are 1,5
- G.C.F = 5

- 2. Factors of 24 are 1, 2, 3, 4, 6, 8, 12,24
 - 24 is a composite number.
- 3. Factors of 12 are 1, 2, 3, 4, 6, 12

Factors of 18 are 1, 2, 3, 6, 9, 18

Common factors are 1, 2, 3, 6

- GCF=6
- 4. Factors of 14 are 1, 2, 7, 14

Factors of 21 are 1, 3, 7, 21

Common factors are 1,7

G.C.F = 7

- 5. Factors of 16 are 1, 2, 4, 8, 16
 - Factors of 24 are 1, 2, 3, 4, 6, 8,
 - 12,24

Common factors are 1, 2, 4, 8

G.C.F = 8

6. Factors of 20 are 1, 2, 4, 5, 10, 20

Factors of 15 are 1, 3, 5, 15

Common factors are 1,5

G.C.F = 5

7. Factors of 30 are 1, 2, 3, 5, 6, 10,

15,30

Factors of 45 are 1, 3, 5, 9, 15, 45

Common factors are 1, 3, 5, 15

G.C.F = 15

- 8. 28
- 9. Multiples of 9 are 9, 18, 27, 36 (Answer may vary)

Unit 7

1.

- 1. 12,615
- 2. 64

3. 121

4. 107

5.389

6. 1,1

7. 7

- 8. 60
- 9. 1,000
- 0. 00
- 11. 304
- **10**. 3 **12**. 110

13. 641

- 14, 5 , 1
- **15**, 102
- **16**, 48

17. 10

18. 6

19, 101

20. 653

21. 517

22. 632

2.

- 1. C
- 2. C
- 3. C
- 4. C

- **5.** B
- 6. C
- 7. A 8. B

- 9. C
- 10. C
- **11**. C
- 15. C
- **12.** C **16.** B

- 13. B 17. C
- 14. B18. A
- 19. A
- **20.** C

- **21**. B
- 22. B 23. B
- **24**. B

25. A

3.

- 1. The mass = $124 \times 5 = 620 \text{ kg}$
- 2. Number of kilometers

$$=58 \times 9$$

- 50
- 8

- = 450 + 72 = 522 km
- 50×9 9×8 = 450 = 72
- 3. Number of days = $545 \div 5$ = 109 days

- 4. Number of teams = 72 ÷ 9= 8 teams
- 5. The number of sweet pieces $= 15 \times 7 = 105$ sweet pieces
- 6. $246 \div 6 = 41$
- 7. The share of each one $= 84 \div 7 = 12$ stickers

Unit 8

1.

- 1. 13
- 2. 6
- **3.** 21 **6.** 8

- **4.** 9 **7.** 2
- **5**. 13 **8**. 4
- 9. 20

- **10**. 18 **13**. 10
- **11.** 20 **14.** 8
- **12.** 3 **15.** 11

- 1. C 5. D
- 2. A 6. C
- 3. C 7. A
- 4. B

- 9. A
- 10. C
- 11. C
- 12. A

- 13. A 17. B
- 14. A
- 15. A
- **16**. B

- 3.
- 1. $7 + 12 \times [4 + 6] = 7 + 12 \times 10 = 7 + 120$ = 127
- 2. $16 \div 4 2 = 4 2 = 2$
- 3. $25-3\times5+2=25-15+2=10+2$ = 12
- 4. He walked = $[5 \times 7] \times 3 + 50$ = $35 \times 3 + 50 = 105 + 50$ = 155 km

Answers of

Directorates Exams

5 Cairo

- 1.
- 1. D 2. D
- 6. D 5. D
 - 7. D

2.

- 1. 10,234,567
- 4.9
- 7. 5
 - 8. 20 cm

3.

- 1. D 2. D
 - 6. C
- 3. D

3. D

2. 22,237

5. 27

7. C

4.

5. C

- 1. $246 \div 6 = 41$
- 2. Ali paid = 7,250 + 4,000 = 11,250 L.E.
- 3. $7 + 12 \times [4 + 6] = 7 + 12 \times 10$ = 7 + 120 = 127
- 4. The multiples of 3 are: 0,3,6,9, 12, 15, 18, 21, 24, 27, 30

Cairo 2

1.

- 1. A 2. B

 - 5. C
- 3. C 6. C

7. C

4. B

2.

7. 61

- 1. 641 4. 2,000
- 2. 6
- 5. 5,650
- 3. 28
- 6. 20
- 8.1,2,3,6,9,18

3.

- 1. A
- 2. A
- 3. C

- 4. C
- 5. D
- 6. B

7. C

4.

4. C

3, 10

6.1

4. D

- 1. The share of each one
 - $= 2.532 \div 3 = 844$ pounds.
- 2. The order is: 654,311,654,310, 654,301 ,604,320 ,599,310
- 3. Factors of 16:1,2,4,8,16

Factors of 20:1,2,4,5,10,20

common factors: 1,2,4

G.C.F: 4

- 4. 36 + 80 + 64 + 20 = 36 + 64 + 80 + 20[Commutative property]
 - = [36 + 64] + [80 + 20]
 - = 100 + 100 = 200

3

Giza

- 1.
- 1. A 4. B
- 2. D
- 5. C
- 3. C 6. C

(Associative property)

7. D

- 1. zero
- 2. 6
- 3. 14

- 4, 400
- 5. 7,500
- 6. 7,000

- 7.100
- 8.15

Answers

3.

- 1. C
- 2. D
- 3. A

- 4. D
- 5. C
- 6. A

- 7. A
- 4.
- 1. Factors of 10:1,2,5,10 Factors of 25:1,5,25 Common factors:1,5 G.C.F:5
- 2. What the ant walks $= 50 \times 10 = 500$ kilometers
- 3.14,221
- 4. The number of groups = $250 \div 5$ = 50 groups

4	Giza		
1.			
1. A	2. C	3. D	
4. B	5. A	6. B	
7. C			
2.			
1. 1,000	2. 457,000,000		
3 . 2	4. 8		
5 . 8,014,936	6. 1		
7 . 2,000	8. zero		
3.			
1 . B	2. C	3. B	
4. B	5 . B	6. B	

- 4.
- 1. Factors of 20:1,2,4,5,10,20 Factors of 30:1,2,3,5,6,10,15,30 Common factors:1,2,5,10
 - G.C.F:10
- $2.2 \times 6 \times 5 = 2 \times 5 \times 6$

(Commutative property)

- $= [2 \times 5] \times 6$ [Associative property]
- $= 10 \times 6 = 60$
- 3. Mohamed paid = 500 342= 158 pounds
- $4.70 \times 22 = 1,540$

Alexandria

- 1. 1. C
- 2. B
- 3. B

- 4. C
- **5**. D
- 6. A

- **7**. C
- 2.
- 2. 7,000
- 3. $5 \times 9 = 45$

- zero
 2,511
- 5.2R1
- 6. 2
- **7.** 20,467 **8.** 2
 - ____
- 3. 1. C
- **2.** B
- 3. A

- 4. B 7. D
- **5**. D
- **6**. B

- 7. D
- 4.
- 1. The perimeter = 5 + 2 + 2 + 3 + 3 + 5= 20 cm

The area = $3 \times 3 + 2 \times 5 = 9 + 10$ = 19 cm^2

 $2.4 \times 5 - 12 \div 3 = 20 - 4 = 16$

7. B

3. A

6. D

9. R

12. D

3.6,350

6. 2

- 3. $24 \times 13 = 312$
- 20 4 10 200 40 3 12 60
- $24 \times 13 = 200 + 40 + 60 + 12 = 312$
- 4. Factors of 12:1,2,3,4,6,12
- Factors of 18:1,2,3,6,9,18

The common factors: 1,2,3,6

G.C.F. = 6

6 El-Kalyoubia

- 1.
- 1. (2. A
- 4. A
 - 5. D
- 6. C

- 7. A
- 2. 1.3,60
- 2. $20 = 4 \times 5$

7. 2,420

3. B

- 251 347
- 4. 7
- 5. 19 6. 20
- 8.180

- 3.
- 1. B 2. D
 - 3. B
- 5. B 4. D
- 6. A

- 7. C
- 4.
- 1. He will save = $145 \times 5 = 725$ pounds
- 2. $A = (20 \div 2) 3 = 10 3 = 7 \text{ cm}$.
- 3. The number of tourists
 - = 7.000 3.000 = 4.000tourists
- 4. The number of glasses in each box $= 424 \div 4 = 106$ glasses.

- El-Sharkia
- 1.
- 1. A
 - 2. A
 - 5. A
 - 8. B
- 7. D
- 10. D
- 13. B

4. B

- 11. B
- 14. B
- 2.
- 1. 2
- 2. 3 5. 6,454
- 4. zero 8. 5,400
- 7. 25 cm²
- 3.
- $1.243 \times 4 = 972$
- $2.108 \div 3 = 36$
- 3. Factors of 24:1,2,3,4,6,8,12,24

Factors of 18:1,2,3,6,9,18

Common factors: 1,2,3,6

- G.C.F: 6
- 4.5,505
 - 8 El-Monofia
- 1.
- 1. C
- 2. B
- 3. B

- 4. C
- 5. C
- 6. C

7. B

- 1. 648,000
- **2**. 7
- 3. 32

- 4.8
- **5.** 1
- 6.90

- 7.6,000
- 8.30

3.

- 1. C
- 2. A
- **3.** C

- 4. B
- 5. B
- 6. D

7. C

4.

- 1. $352 \times 6 = 2{,}112$
- 2. The remaining distance = 874 359 = 515 km
- 3. Factors of 25:1,5,25

Factors of 35:1,5,7,35

Common factors:1,5

G.C.F: 5

- 4. Each friend will get = $92 \div 4$
 - = 23 stickers

9 El-Gharbia

1.

- 1. B
- 2. D
- 3. C

- 4. C
- **5**. D
- 6. D

7. C

2.

- 1. zero
- 2. 2,132
- 3. 10:07

- 4. 4
- **5**. 50
- **6**. 28

- 7.24
- 8.6,360
- 98
- 240

- 3.
- 1. B 4. B

- **2**. C
- 5. A
- 3. A 6. D

- 7. C
- 4.
- 1. The arrangement is: 42,695, 7,986,362,32,968,327,38,257,967
- 2. Factors of 12:1,2,3,4,6,12
- 3. $46 \times 3 = 138$
- 4. The area = $5 \times 5 = 25 \text{ km}^2$

10 El-Dakahlia

- 1.
- 1. B 4. B

- **2**. C **5**. C
- 3. A 6. D

- 7. C
- 2.
- 1. 105
- **2.** 240
- **3**. 32,032

- **4.** 4,433 **7.** 90,000
- **5.** 2 **8.** 28
- **6.** 4

- 3.
- 1. C 4. A
- 2. D 5. C
- 3. D 6. C

- **7.** B
- 4.
- 1. She had = $16 \times 4 = 64$ marbles
- 2. The number of students $= 72 \div 8 = 9$ students
- 3. The perimeter = $2 \times (4 + 8) = 24$ cm
 - The area = $8 \times 4 = 32 \text{ cm}^2$
- 4. 45 liters = 45,000 milliliters

8. 22

3. B

6. C

1. 1. C 2. B 3. D 4. A 5. C 6. C 7. A

2.

- **1**. 2 **2**. 132
- **4**. 6 **5**. 2,450
- **7.** 25 **8.** 500

3.

- **1.** D **2.** B
- **3.** C

6. A

3. 46,000

6. 20

- 4. A 5. C
- 7. C

4.

1. Factors of 12:1, 2, 3, 4, 6, 12 Factors of 18:1, 2, 3, 6, 9, 18 Common factors:1, 2, 3, 6

G.C.F:6

- **2.** He paid = $123 \times 6 = 738$ pounds
- 3. $125 \div 5 = 25$
- 4. 35,425

19

Suez

1.

- 1. A 2. C
- **3**. C
- 4. C 5. D
- **6**. D

7. C

- **1.** 121 **2.** 90
- 4. 48
 5. Thousands
- 6. 19 7.
 - 7.6,350

- 1. A 2. B
- 4. A
- **7**. B

3.

4.

- 1. a. 75
- 2. Factors of 12:1,2,3,4,6,12

b. 123

5. C

Factors of 8:1,2,4,8

Common factors: 1,2,4

G.C.F: 4

- 3. The area = $5 \times 5 = 25 \,\text{m}^2$
- 4. Ahmed read = 286 + 154 = 440 pages

13

Damietta

1.

- 1. A 2. B
 - F C
 - **5**. D
- 3. A
- ٥.
- **6.** B

7. A

4. C

- 2.
- 1. 7
- 2. 3,250
 - 50 **3.** 4

- **4.** 71 **7.** 20
- **5.** 2,000 **8.** 10
- 453

3.

- 1. C
- 2. B
- 3. A

- 4. B
- **5**. B
- 6. D

7. B

Answers

4.

- 1. a. x + 2,164 = 5,398
- b. 3,234
- 2. Factors of 9:1,3,9
 - Factors of 12:1,2,3,4,6,12
 - Common factors: 1,3
 - G.C.F: 3
- 3. $239 \times 7 = 1.673$
- 4. $L = [16 \div 2] 3 = 5 \text{ m}$

Kafr El-Sheikh

1.

- 1. D
- 2. B
- 5. A
- 3. A 6. A

4. D 7. A

2.

- 1. 8.753
- 2. 1,225,458,000
- 3. 12 , associative
- 4. 22,000

- 5. 1.000
- 6. 5
- 7.51

3. C

3.

- 1. A
- 2. D
- 5. A
- 6. A

4. C 7. C

4.

- a. The order is: 700 thousand 1 million 9 million and 700,540,275
- **2. a.** The perimeter = $[10 + 12] \times 2$ $= 22 \times 2 = 44 \text{ m}$
 - b. The area = $10 \times 12 = 120 \text{ m}^2$
- 3. Ahmed paid = $240 \times 6 = 1,440$ pounds
- 4. The share of each one = $95 \div 5 = 19$ L.E.

15 El-Beheira

1.

- 1. A
- 2. C
- 3. B

- 4. C 7. C
- 5. A
- 6. C

- 2.
- 1. 1,197
- 2.0
- 3.1

- 4. 32
- 5. 7,077
- 6. 4,300
- 7.800 + 90 + 2
- 8.3

3.

- 1. C
- 2. B 5. C
- 3. A 6. A

- 4. C
- 7. D
- 4.
- 1. The area = $6 \times 6 = 36 \text{ cm}^2$
- 2. He saves = $145 \times 4 = 580$ L.E.
- 3. Factors of 8:1,2,4,8

Factors of 12:1,2,3,4,6,12

Common factors: 1,2,4

G.C.F.: 4

4. $852 \div 6 = 142$

16 El-Fayom

1.

- 1. C
- 2. B
- 3. D

- 4. A
- 5. B
- 6. B

7. D

- 1.1
 - 2.120 3. 13,000

6. 9

- 4.48 5. 0 7. 5
 - 8.1,353

3.

- 1. C 2. C
 - 3. D 5. C 6. A
- 4. A 7. C

4.

- 1. Factors of 12:1,2,3,4,6,12 Factors of 18:1,2,3,6,9,18
 - Common factors: 1,2,3,6
 - G.C.F.: 6
- 2. The number of bottles = $32 \div 8$ = 4 bottles
- 3. 26 4, 305

El-Menia

1.

- 1. D
- 2. B 5. B
- 3. C 6. D

4. A 7. B

2.

- 1. 2 2. 37 4. 4
 - 5. 3
- 3. 128 **6.** 3,000

3. B

- 7.40
 - 8. Millions
- 3. 1. B
- 4. B
- 2. A 5. C
- 6. C

7. B

- 4.
- 1. The perimeter = $[6 + 2] \times 2$ $= 8 \times 2 = 16 \text{ cm}$.
- 2. Factors of 10:1,2,5 and 10
- 3. The order is: 14,567, 24,567 ,34,657 , 45,657
- $4.16 \times 3 = 48$

18 Souhag

- 1.
- 1. A
- 2. C
- 3. C

- 4. C 7. A
- 5. A
- 6. D

- 2.
- 1. 35,000
- 2. 69,066
- 3. 78,000

- 4. 32 7.4,800
- 5. 312 8.8

- 1. B
- 2. D
- 3. B

6. 1

4. B 7. A

3.

- 5. D
- 6. D

- 4.
- 1. The number of ants = 142 + 164= 306 ants
- $2.98 \times 4 = 392$
- 3. 45 liters = 45,000 milliliters
- 4. The perimeter
 - = 8 + 6 + 4 + 4 + 4 + 2= 28 cm



The area =
$$4 \times 4 + 2 \times 8$$

Cm



19	Aswan	
1.		
1. B	2. B	3. C
4. D	5. A	6. C
7. D		
2.		
1. 15	2. 235,18	30
3. 1,000,000	4. 940	5. 890
6. 3	7 . 13	8.1
3.		
1 . B	2. C	3. A
4. B	5. B	6 . C
7 . D		

- 1. The order is: 984,610 ,1,945,321 ,2,457,287 ,5,000,000
- 2. Factors of 10:1,2,5,10 Factors of 15:1,3,5,15 Common factors:1,5 G.C.F:5
- 3. x = 869 543 = 326
- 4. $844 \div 4 = 211$

20	South Si	inai
1.		
1. C	2. 6	3. D
4. D	5. B	6 . C
7. C		
2.		
1. 24	2. 800	3 . 36,000
4. 5,000	5. 2	6 . 24
7 . 30	8. 10	
3.		
1 . B	2. B	3. D
4. C	5. D	6. C
7. C		

- 4.
- 1. The number of left pages = 400 125 = 275 pages
- 2. Factors of 40:1,2,4,5,8,10,20,40
 Factors of 50:1,2,5,10,25,50

Common factors: 1, 2, 5, 10

G.C.F:10

- 3. The area = $20 \times 8 = 160 \text{ cm}^2$
- 4. The number of ants = 145 + 162 = 307 ants